







THE JOURNAL

OF

MENTAL SCIENCE

Published by Authority of the
Association of Medical Officers of Asylums and Hospitals
for the Insane.

EDITED BY
C. L. ROBERTSON, M.D. CANTAB.
AND
HENRY MAUDSLEY, M.D. LOND.

"Nos vero intellectum longius à rebus non abstrahimus quam ut rerum imagines et
radii (ut in sensu sit) coire possint."

FRANCIS BACON, *Proleg. Instaurat. Meg.*

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"IN adopting our title of the *Journal of Mental Science*, published by authority of the Association of Medical Officers of Asylums and Hospitals for the Insane, we profess that we cultivate in our pages mental science of a particular kind, namely, such mental science as appertains to medical men who are engaged in the treatment of the insane. But it has been objected that the term mental science is inapplicable, and that the terms, mental physiology, or mental pathology, or psychology, or psychiatry (a term much affected by our German brethren), would have been more correct and appropriate; and that, moreover, we do not deal in mental science, which is properly the sphere of the aspiring metaphysical intellect. If mental science is strictly synonymous with metaphysics, these objections are certainly valid, for although we do not eschew metaphysical discussion, the aim of this Journal is certainly bent upon more attainable objects than the pursuit of those recondite inquiries which have occupied the most ambitious intellects from the time of Plato to the present, with so much labour and so little result. But while we admit that metaphysics may be called one department of mental science, we maintain that mental physiology and mental pathology are also mental science under a different aspect. While metaphysics may be called speculative mental science, mental physiology and pathology, with their vast range of inquiry into insanity, education, crime, and all things which tend to preserve mental health, or to produce mental disease, are not less questions of mental science in its practical, that is, in its sociological, point of view. If it were not unjust to high mathematics to compare it in any way with abstruse metaphysics, it would illustrate our meaning to say, that our practical mental science would fairly bear the same relation to the mental science of the metaphysicians as applied mathematics bears to the pure science. In both instances the aim of the pure science is the attainment of abstract truth; its utility, however, frequently going no further than to serve as a gymnasium for the intellect. In both instances the mixed science aims at, and, to a certain extent, attains, immediate practical results of the greatest utility to the welfare of mankind; we therefore maintain that our Journal is not inaptly called the *Journal of Mental Science*, although the science may only attempt to deal with sociological and medical inquiries, relating either to the preservation of the health of the mind or to the amelioration or cure of its diseases; and although not soaring to the height of abstruse metaphysics, we only aim at such metaphysical knowledge as may be available to our purposes, as the mechanician uses the formularies of mathematics. This is our view of the kind of mental science which physicians engaged in the grave responsibility of caring for the mental health of their fellow-men may, in all modesty, pretend to cultivate; and while we cannot doubt that all additions to our certain knowledge in the speculative department of the science will be great gain, the necessities of duty and of danger must ever compel us to pursue that knowledge which is to be obtained in the practical departments of science, with the earnestness of real workmen. The captain of a ship would be none the worse for being well acquainted with the higher branches of astronomical science, but it is the practical part of that science as it is applicable to navigation which he is compelled to study."

J. C. BUCKNILL.

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THE JOURNAL OF MENTAL SCIENCE.

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APRIL, 1866.

VOL. XII.

PART I.—ORIGINAL ARTICLES.

On the Weight of the Brain, and on the Circumstances affecting it.
By JOHN THURNAM, M.D., F.R.C.P.L.

THE weight of the brain in insane persons has been investigated by Dr. Parchappe in France, Dr. Bergmann in Germany, and on a larger scale, by Dr. Boyd in this country.* Further observations, however, were, for many reasons, to be desired; and having during many years past either weighed myself, or caused to be weighed, the brain of nearly every patient who has died whilst under my care, I ventured to think the large series of observations thus obtained, and which amount to 470 cases, were worthy of being collected, analysed, and compared with the weights recorded by previous observers.

The brains were examined in the usual manner, by slicing from above downwards. The cephalo-spinal fluid, effused serum, and blood, were allowed to drain away before the brain was weighed. The dura mater was, of course, removed; but the pia mater and arachnoid, if in part detached for examination, were weighed with those parts of the encephalon to which they belonged.† The crura cerebri were divided close to the pons, and the two hemispheres weighed separately. The medulla oblongata was divided about half an inch below the olivary bodies; and the cerebellum, pons, and medulla weighed separately.

The weights employed were *avoirdupois*, which, to facilitate calcu-

* Many weights of the brains of insane persons have been recorded by Dr. Bucknill, Dr. Skae and others, but hitherto they have only been partially analysed.

† It would be more accurate, with Tiedemann, to weigh the brain entirely denuded of its investing membranes. This, however, has not been generally attempted, and is hardly practicable with the *encephala* of many of the insane.

lation, are expressed in the tables in ounces and tenths. I have added, likewise, in all the tables, the equivalent weights, in *grammes*, for the sake of ready comparison with the observations and tables of the Continental anatomists. The trifling discrepancies which may be observed, I believe, have resulted according to whether ounces had to be converted into grammes, or grammes into ounces, and from the fractions of grammes and of tenths of ounces being disregarded. A smaller weight than the ounce, enabling us to dispense with the necessity for fractions, and for other reasons, was much to be desired for such physiological purposes as those under consideration, and the gramme (of 15·438 grains English) is well adapted for this purpose. Moreover, as the use of the metrical system of weights and measures in this country has been sanctioned by a permissive Act of Parliament, passed in the session of 1864, we may expect that statical observations made by men of science in England will, by degrees, be assimilated to those of the greater part of Europe. The use of different standards of weights and measures in the different countries of the civilised world is a serious impediment to the progress of science. Uniformity in this respect is reserved for posterity; let us, in our day, contribute to so desirable a result.

TABLES I and II.—These tables, which show the weights of the brains of 257 men and 213 women, at decennial periods of life, collected at the Wilts County Asylum, give the *maximum* and *minimum*, as well as the *average* weights, so as to bring out the extremes between which the weights oscillate. The difference between the maximum and the minimum weights, both as regards the cerebrum, the cerebellum (inclusive of the pons varolii and medulla oblongata), and the entire encephalon, is greater, I think, than before observed, amounting to 80 or 90 per cent. (·73—·96) on the cerebrum and entire encephalon, and to as much as 100 or 115 per cent. on the cerebellum.

Brains of Men.

	Maximum.			Minimum.		Excess per Cent.
	Oz.	Grmm.		Oz.	Grmm.	
Cerebrum	54·	1530	.....	27·5	779	..... 96
Cerebellum, &c....	8·	226	.....	3·25	92	..... 115
Encephalon	62·	1757	.....	32·	907	..... 93

Brains of Women.

	Maximum.			Minimum.		Excess per Cent.
	Oz.	Grmm.		Oz.	Grmm.	
Cerebrum	47·5	1346	.....	26·	737	..... 82
Cerebellum, &c....	7·	198	.....	3·5	99	..... 100
Encephalon	53·2	1507	.....	30·7	870	..... 73

It is possible that the fluctuations in weight have a wider range in the insane than in the sane. The small, or microcephalous brains,

are mostly those of idiots or congenital imbeciles, of whom a certain number are found in all asylums; and the larger are those of megaloccephalous persons, who, under the influence of efficient exciting causes, and especially of epilepsy, are perhaps more liable to mental disorders than those with brains of average size. The numbers, however, of these exceptionally large and small brains are not in such proportions (see Table X), as materially to disturb the mean weights. The one extreme seems to neutralise the other.

It is not the exceptional instances, but the average results, which in the sciences of observation should most engage our attention, and which afford the surest evidence. The average weights are given in the tables for each decennial period of life; but to these we cannot attach much value for the ages below 20 years, of which there were only six of the male and three of the female sex. At the foot of these and of the following tables, I have reunited the numbers into three periods. 1. That of youth, from 10 to 20 years; 2. That of maturity, from 20 to 60; and, 3. That of decadence, from 60 to 90 years and upwards. Postponing the more particular consideration of the influence of sex and age on the weight of the brain, it will be seen that the average weights for all ages, as deduced for the insane from these tables, are as follows:—

<i>Brains of Men.</i>			<i>Brains of Women.</i>			Excess per Cent. in Men.
	Oz.	Grmm.		Oz.	Grmm.	
Cerebrum	40·2	1139	.....	35·6	1009	..... 12·
Cerebellum, &c.	6·	170	.....	5·4	153	..... 10·
Encephalon ...	46·2	1309	.....	41·	1162	..... 12·

These weights do not differ, except in a minute fraction, from those which are obtained for the period of maturity in each sex, from 20 to 60 years of age. In the sane the difference is more pronounced between the weight of the brain in the middle and that in the more advanced period of life.

I do not, in these tables, show the weight of the two hemispheres of the cerebrum distinguished separately, though in nearly every instance* they were so weighed. Dr. Boyd, by whom this method has likewise been followed, in describing the results obtained by him in 528 brains of the insane, observes:—"It is a singular fact, confirmed by the examination of nearly 200 cases at St. Marylebone, in which the hemispheres were weighed separately, that almost invariably the weight of the left exceeded that of the right by at least the eighth of an ounce."† Though the results obtained by me do not confirm Dr. Boyd's observations, I do not wish to be understood as saying that they refute them. A nice, and at times difficult, sec-

* In only two cases was the cerebrum weighed as a whole.

† Boyd, 'Phil. Trans.' 1861, vol. cli, p. 261.

tion is requisite to ascertain the weight of one hemisphere, as compared with that of the other; and in dividing, it may be, a softened great commissure, it is difficult to cut always in the exact median line. As a moiety only of the brains were actually weighed by myself, I have not thought it desirable to embody in the tables the weights of the two hemispheres. I may, however, here give an abstract of the recorded results, though disclaiming for them any pretensions to minute accuracy:—

<i>Brains of Men.</i>					<i>Brains of Women.</i>				
Years of Age.	Right Hemisphere.		Left Hemisphere.			Right Hemisphere.		Left Hemisphere.	
	Oz.	Grmm.	Oz.	Grmm.		Oz.	Grmm.	Oz.	Grmm.
16—20 ...	20·37	.	20·83	.		19·62	.	19·62	.
20—30 ...	21·	.	21·02	.		18·	.	18·02	.
30—40 ...	19·50	.	19·45	.		17·55	.	17·53	.
40—50 ...	20·28	.	20·31	.		18·1	.	18·	.
50—60 ...	20·88	.	20·21	.		17·5	.	17·9	.
60—70 ...	20·21	.	20·19	.		18·33	.	18·25	.
70—80 ...	20·01	.	19·9	.		17·34	.	17·35	.
80—90 ...	19·42	.	19·5	.		17·59	.	17·59	.
Averages.									
16—90 ...	20·14	570	20·11	569		18·04	511	18·03	510

Since the above was written, I have observed that the late Professor Wagner has controverted the supposed greater weight of the left hemisphere. He employs almost the same arguments as those used above, and gives the results obtained by him in eighteen weighings of the two hemispheres of brains which had been dissected and preserved in spirit. Out of these the right hemisphere was the heavier in ten, and the left in six instances; in two they were of equal weight. The average weights for the whole were 427 grmm. for the right, and 426 grmm. for the left hemisphere.* Fresh careful observations are certainly needed before we can admit the general preponderance of the left hemisphere over the right.

TABLES III and IV.—In these tables I have brought together the average weights of the brain at the different ages, as observed by me in Wiltshire, and those obtained by Dr. Boyd for 527 cases in the adjoining county of Somerset. These, as well as the cases reported by myself, belong, of course, to the pauper class, or to that just above it, which almost necessarily falls into the pauper class, under the pressure of mental disorder. To these I add the weights of 59 other brains formerly (1838-1849) weighed by me at the Friends' Retreat, near York. These were from persons of a more educated middle class of society, from all parts of England. The average weights for these last is considerably greater than that for the poor of Wilts and Somerset. A greater number of observations is de-

* Wagner, 'Vorstudien des Menschlichen Gehirns,' 1862, ii, 89-92.

sirable for the middle and upper class in particular, and also for the poor in other parts of this country, and especially in the northern counties. In the concluding columns of these tables the observations from the three asylums are united into common averages, which, for the present, may be taken as representing the average weights of the brain for the insane of England.

TABLES V and VI.—In these tables the average weights of the brain observed in the three English asylums are compared with those obtained by M. Parchappe for 284 insane French, at the asylum of St. Yon, near Rouen (Seine-Inférieure);* and also with those recorded by Dr. Bergmann, for 242 Germans, at the asylum at Hildesheim, Hanover.† It will be seen that the weights, at nearly all ages, are higher in the French than in the English observations, and that they are much higher in the German ones. Further observations are desirable for both these countries. I have also analysed and inserted in their proper place the 560 brain-weights collected by Dr. Skae, for the insane of the south-east of Scotland, and which are shown to be considerably higher than those of either English, French, or Germans.

TABLES VII and VIII.—The preceding tables refer to the insane. In those now before us I bring together the observations as to the weight of the brain in persons of sane mind, in a few of the principal countries of Europe. In the first place there is a very extensive series of weights for the poor of the west of London, obtained by Dr. Boyd at the Parochial Infirmary of St. Marylebone, between the years 1839 and 1847.‡ These “most colossal” tables of Dr. Boyd’s, as they are designated by Wagner, comprise the weights of no fewer than 2030 brains at all periods of life, of which 1424 are of adults, of 20 years of age and upwards. This is by very much the largest series of cerebral weights yet made by one observer; and is particularly valuable, as comprising a considerable number of weights of the brain in young infants and children of all ages, from the prematurely and stillborn up to 14 years of age, as to whom observations were previously very scanty. With the

* Parchappe, ‘*Traité de la Folie*,’ 1841, pp. 345-353.

† Bergmann, “Gewicht des Gehirns,” ‘*Zeitschrift für Psychiatrie*,’ 1852, ix, 361.

‡ Boyd, ‘Tables of Weights of the Human Body and Internal Organs in the Sane and Insane,’ from 2614 post-mortem examinations: ‘*Phil. Trans.*,’ 1861, vol. cli, p. 261. Dr. Boyd had been preceded in his researches on the weight of the brain and other organs, at the Infirmary of St. Marylebone, by Dr. Sims and by Dr. Clendinning. The valuable tables of the former are printed in the 19th vol. of the ‘*Med.-Chir. Transactions*’ (1835, p. 352), and those of the latter in the 21st vol. (1838, p. 33). The former weighed 253, the latter 193 brains. Dr. Clendinning’s observations show a greater brain-weight in death from disease of the heart, than in death from other causes, phthisis excluded. The difference in the male sex amounted to 2·1 oz., or nearly 5 per cent.; the average weight in disease of the heart being 48·5 oz., in other diseases 46·4 oz., in phthisis 46·2 oz.

observations as to the maximum, minimum and average weights of the brain, (under the heads of cerebrum, cerebellum, pons and medulla, and entire encephalon), are found the maximum, minimum, and average weight of the body and the stature; so that there can be little doubt that, if at all, the law of increase of the human brain may be deduced from these observations. I had hoped to have been able to have digested the whole of the observations here glanced at into two large tables, one for each sex, which would have proved very useful for easy reference. The task, however, is one which I am obliged to decline. I have, however, extracted and arranged the average weights of the brain for the two sexes at every period of existence, and have given these in Table IX.

The brains weighed by Dr. Boyd, at St. Marylebone, may be regarded in general as those of the sane, but not without qualification. Diseases of the nervous system were the cause of death in 354 cases, or 17 per cent. of the whole;* and Dr. Boyd informs me that many of these were cases of acute or chronic insanity, with or without epilepsy, and that a few were idiots. We may, perhaps, estimate the insane as forming 5 per cent. of the whole.

The next series of weights embraced in these tables consists of the less extensive but very accurate observations of Dr. Reid and Dr. Peacock, which have been carefully analysed by the latter.† They are those of the brains of patients in the Royal Infirmary of Edinburgh, dying from such acute or chronic diseases or accidents as are usually treated in the hospitals of great cities. Those dying with disease of the brain are not included in the general table. Among the brains weighed were some of Highlanders, and a few of Orkney and Shetland men, but the great majority were of Lowland Scotch. It is not improbable that for the most part they were of a somewhat better rank, and did not include so many of the degraded pauper class as the inmates of the Infirmary of St. Marylebone. The average weights are higher than those of any series yet published of the brains of sane persons.

The third series of brain-weights in this table is taken from the great Table of Weights of the Brain collected by the late Professor Wagner, which comprise 964 cases for the two sexes, and all ages, though principally of twenty years and upwards. This table is compiled from very heterogeneous materials, and it embraces a large proportion of the brains of insane persons, and of many others in

* Loc. cit., p. 260.

† Peacock, "Tables of Weights of the Brain, &c.," 'Monthly Journal of Medical Science,' vol. vii (N. S. i), 1847; reprinted 1861. It is interesting to compare the brain-weights obtained by Dr. Peacock in London ('Pathol. Trans.,' vol. xii, 1860-61) with those he had previously procured in Edinburgh. They are not numerous, but confirm the view of the average English brain being somewhat lighter than that of the Scotchman. In 28 men, of 20 to 60 years, it was 49 oz., or 1388 grmm., being 1 oz. (29 grmm.) less than in the Scotch. (See p. 636.)

whom there was disease or a suspicion of disease. The table appears to be constituted as follows :

Reported by	Sane.				Insane.		
	M.	F.	T.		M.	F.	T.
Sims, <i>English</i>	121	127	248	...	1	4	5
Huschke, <i>Germans</i>	43	81	74	...	.	.	.
Tiedemann, "	42	16	58	...	.	.	.
Wagner, "	19	18	32	...	.	.	.
Virchow, "	1	4	5	...	.	.	.
<i>Brains of Cuvier, Byron, Dupuytren</i>	8	4	8	...	.	.	.
Bergmann, <i>Germans</i> .....	.	.	.	...	152	90	242
Parchappe, <i>French</i>	5	4	9	...	166	122	288
Sane 234 195 429				Insane	319	216	535
				Sane	234	195	429
				Totals	553	411	964

Wagner's table has been subjected to analysis by two distinguished anthropologists, Professor Broca, of Paris, and Professor Welcker, of Halle. M. Broca excludes all the brains of insane persons, as well as those in which there is a suspicion of disease. The total number is thus reduced to 347 at all ages, or to somewhat more than one third of the whole. Nearly half of these selected cases must be those of English, reported by Sims, and which, like those of Dr. Boyd, were collected at the Infirmary of St. Marylebone. The other moiety must be almost exclusively those of the German observers (exclusive of Bergmann), and, with trifling exceptions, are no doubt of the brains of Germans. Professor Welcker confines his attention to the brain-weights of persons between twenty and sixty years of age, but takes all at this period of life, rejecting only four observations,* and adding nine of his own. This gives 673 examples, namely, 415 of men and 258 of women. The average weight obtained by Welcker for the period of maturity (twenty to sixty years), shows an excess of 19 grmm., or nearly three quarters of an ounce, for the men, and one of 6 grmm., or one fifth of an ounce, for the women, as compared with that obtained by M. Broca for the selected cases. This result is due probably to the presence of brains diseased from other causes than mere insanity, in which we shall find reason to believe that the mean weight is usually diminished by the atrophy of this organ, the tendency to which is materially increased. It is obvious that the more the brains weighed in these observations are restricted, when tabulated, to distinct classes, the more valuable they become for the purposes of science. To make, however, this part of the table complete, I have calculated the average weights from Wagner's table for the four periods of life, passed over by Welcker, viz., ten to twenty, sixty to seventy, seventy to eighty, and eighty to ninety

* Welcker, 'Wachsthum und Bau des Menschlichen Schädels,' 1862, p. 36. The four brains omitted are Nos. 1, 3, 4, and 179; being those of a case of hydrocephalus, of Cuvier, Byron, and Dupuytren respectively.

years. It is curious that for all these ages the average weights are decidedly lower in the miscellaneous and unselected cases than in those selected by M. Broca. Partially microcephalous brains among the young, and the atrophy common to advanced life, and especially to the insane, here come into play to confuse and vitiate the results.

TABLE X.—I have in this table arranged all the brains weighed by me at the Wilts County Asylum in five classes, according to their large, medium, or small size. This has been done with the view of showing the relative number which much exceed, or much fall short of, the average weight. The proportion of megalcephalous or great brains, and of microcephalous or little brains, are seen at a glance by this arrangement. In the absence of any considerable series of healthy brains, the individual weights of which are given, I have analysed all those of adults from twenty to ninety years of age in the table of Wagner, and have introduced them for comparison in a second series of columns. I should have preferred, for this purpose, Dr. Boyd's weights of brains as obtained by him at St. Mary-lebone, had the form in which they are recorded made them available.

After these explanations of the arrangement of the tables before us, we may consider the general conclusions which appear deducible from them. In doing this, we may review the apparent influence of Sex, Age, Weight and Stature of the body, Ethnological Characteristics and Race, Social Position and Education, and of Disease, particularly Insanity and Idiocy, on the average weight of the brain.

I. SEX.

The generally smaller size of the head, and consequently of the brain, in the female, must have been obvious to the earliest observers. The record of the fact seems to date from Aristotle. My own observations fully confirm those of preceding writers as to the average weight of the adult male brain being about 10 per cent. greater than that of the female. As Professor Welcker expresses it, "The brain-weight of the male (1390 grmm.) is to that of the female (1250 grmm.) as 100 : 90." Slight variations are observable in the brain-weights of the two sexes, as given by different observers, but it will be seen that the average difference is expressed with much accuracy by these figures. In this particular there is little difference whether we regard the brain-weights for the two sexes, in the sane or in the insane. On comparing Tables III and IV, which show the weight of the brain in the two sexes in three English asylums, we obtain the following results :

Ratio of the Brain-weight of the Insane in the Two Sexes.

	Male.	Female.
20—60 years . . .	100·	91·
20—90 „ . . .	100·	90·

In like manner, comparing Tables VII and VIII, showing the weight of the brain in three countries of Europe, we find as follows :

Ratio of the Brain-weight of the Sane in the Two Sexes.

	Male.	Female.
20—60 years . . .	100	90
20—90 „ . . .	100	89.9

The difference between the average weight of the male and female brain, according to Welcker's computation, is 4.94 oz., or 140 grmm., but, according to Dr. Peacock's observations on the Scotch, 5.3 oz., or 150 grmm. Altogether, we must agree with Professor Welcker, that Wagner expressed himself much too cautiously when he says only that "male brains have in general a greater absolute weight than female." *

Some have supposed, with Tiedemann, that the less size of the brain of the female is due simply to her less stature. This, however, is not the case; and it was long since shown by M. Parchappe, though from a too restricted number of weights, that the difference was greater than could be accounted for in this way.† I am able to confirm this opinion from calculations founded on the great Tables of Dr. Boyd for St. Marylebone. For this purpose I have examined and compared the average stature and brain-weight for men and women, at the decennial periods from twenty to sixty. For these four periods of life, Dr. Boyd gives the average stature of 414 men and 356 women, and the average brain-weights of 425 men and 370 women. Now, the mean stature for these four periods of life may be taken as 5 ft. 6.5 in. (1.689 metre), for the men, and 5 ft. 2 in. (1.574 metre), for the women; whilst the average weight of the brain is 47.8 oz. (1354 grmm.) for the men, and 43.2 oz. (1224 grmm.) for the women. If then, as before, we take the figures 100 to represent the brain-weight, and also the stature of the male, we shall find that the ratio of these are for the female as follows :

Ratio of Stature and Brain-weight in the Two Sexes.

	Male.	Female.
Stature	100	92
Weight of Brain	100	90.3

Whilst the brain-weight is nearly 10 per cent. less in the female than in the male, the stature is only 8 per cent. less. As M. Broca expresses it, "The relative small size of the brain of the female depends at the same time on her physical and her intellectual inferiority."‡

* Wagner, l. c., p. 92. Welcker, l. c., p. 39.

† Parchappe, 'Recherches sur l'Encéphale, Prem. Mémoire,' 1836, p. 76.

‡ Broca, "Sur le Volume et la Forme du Cerveau," p. 16; 'Bull. de la Soc. d'Anthropologie de Paris,' 1861, t. ii.

II. AGE.

The anatomists who wrote early in the present century, Soemmering, the Wenzels, and even Sir W. Hamilton and Tiedemann, held that the brain attained its greatest development at a very early period, viz., at three, seven, or, at the latest, from seven to eight years of age. More accurate observations agree in showing that up to the period of puberty, or the middle of the second decade of life, the weight of the brain goes on progressively increasing from, as appears, about 11.67 oz., or 331 grmm., for the encephalon of the new-born male, and 10 oz., or 283 grmm. for that of the new-born female, to 46 oz. (45.96) or 1302 grmm., for the former, and to 40.78 oz., or 1155 grmm., for the latter, at the years between seven and fourteen (see Table IX). Dr. Boyd shows, however, that the average weight of the brain of "still-born" children at the full period, was much greater than that of the "new-born" who were viable. The death of a large proportion of the former was no doubt owing to the exceptionally large size of the head. Hence, likewise, "the large number of still-born male infants as compared with females, 51 to 32,* and the necessity of resorting to craniotomy in five instances in the males only." The average weight of the brain of those dying at the moment of birth is evidently much greater than that of those who survive. Again, when we turn to the same table, we find that the highest figures for any period of life are those for fourteen to twenty years, viz., 48.54 oz., or 1374 grmm. for the male, and 43.94 oz., or 1244 grmm. for the female sex. Are we then to conclude that, differently from the rest of the internal organs, the brain attains its maximum, or nearly maximum development, at or before the period of adolescence, and then sustains a diminution? This was the opinion of Dr. Sims,† which other observations at first sight appear to confirm. Thus, in M. Broca's selected cases from Wagner (Tables VII and VIII), the average weights for the period from ten to twenty years are higher in both sexes than those for any succeeding decade. We can hardly believe that the weight of the brain undergoes an actual diminution at the age of twenty, and again increases in the same individual after thirty years. Rather, with M. Broca, it is to be supposed that an exceptionally exuberant growth of this organ at the period of adolescence, which is by no means rare, has a tendency to destroy the equilibrium between

* Out of these cases, as shown in these tables of Dr. Boyd's (see Table IX), the brain was examined and weighed in forty-three males and thirty-one females; l. c., pp. 243, 260.

† Sims, "The inference from this table is, that the average weight of the brain goes on increasing from one year old to twenty; between twenty and thirty there is a slight decrease in the average; afterwards it increases, and arrives at the maximum between forty and fifty; after fifty, to old age, the brain gradually decreases in weight." 'Med.-Chir. Trans,' vol. xix, p. 358.

the nervous system and the rest of the organism, and thus to compromise existence. It is well known that the large-headed often die in early life.* Here, as in the case of the still-born, the average weight of the brain of the dying cannot be taken as the same as that of the living, but is no doubt considerably in excess of it.

Passing over these apparent exceptions, it may in general be admitted that the average weight of the brain undergoes a progressive increase to a period somewhere between the twentieth and the fortieth year. According to all the tables before us which refer to the sane, the greatest average weight for the male brain is that for the middle decennial period, or from thirty to forty years; and this, as M. Broca observes, agrees perfectly with what we know of the continued development of intelligence during the whole of this period. For women, the full average size of the brain is perhaps attained within the preceding decade, of twenty to thirty years; but the difference between the two sexes in this respect is not great. From forty to fifty years there is a slight diminution in weight, and a greater one between fifty and sixty. After sixty years, the rate of decrease is still greater; the process of decay becomes more and more rapid, and thus in the eighth decade of existence the average weight of the brain is less by more than three ounces (80—90 grmm.) than it was in the fourth decade. In the aged, on the average, the weight of the brain decreases *pari passu* with the intelligence. There are many exceptions to this general law, and some, particularly of the more cultivated and learned class, preserve to extreme age all the fulness and vigour of their faculties. The brain of such men, as the late Professor Gratiolet observes, remains in a state of perpetual youth, and loses little or none of the weight which belonged to it in the prime of life.

III. WEIGHT OF THE BODY AND STATURE.

The relations of the weight of the body and of the stature to the weight of the brain have as yet been investigated on insufficient data. From his observations, which, for all ages and both sexes, were thirty-five in number, Tiedemann concluded "the human brain is smaller in comparison to the body the nearer man approaches to his full growth. In the second year the proportion of the brain to the body is as 1 : 14; in the third, 1 : 18; in the fifteenth, 1 : 24. In a full-grown man between the age of twenty and seventy years, as 1 : 35 to 45. In lean persons the proportion is often as 1 : 22 to 27; in stout persons as 1 : 50 to 100, and more. . . . The female brain is for the most part even larger than the male, compared with the size of the body."†

* Broca, loc. cit., p. 19.

† Tiedemann, "On the Brain of the Negro, compared with that of the European and the Orang," 'Phil. Trans,' 1836, vol. cxxvi, p. 503.

The observations of Drs. Reid and Peacock are 154 in number; and from these Dr. Peacock infers that "the relative proportion of the encephalon to the whole body undergoes a gradual decrease from infancy to adult age; and averages in males, at from twenty-five to fifty-five years of age, 1 to 37.2, presenting during this period a range of from 1 to 80 to 1 to 25, according to the state of emaciation or corpulence of the body. In females the average during adult life is 1 to 33.5, and the extremes 1 to 44.8 and 1 to 24. The female brain, though absolutely lighter than that of the male, maintains a higher proportion relatively to the weight of the body."*

Dr. Boyd's tables for St. Marylebone afford a very much more extensive basis for this inquiry, and I have extracted the average weights of the body and of the brain, for the periods above four years of age, and have calculated the proportions, which are here given.

Weight of Brain to Weight of Body.

Years.		Male.		Female.
4—7	.....	1:10.1	.....	1:9.5
7—14	.....	1:14.7	.....	1:15.
14—20	.....	1:22.4	.....	1:23.2
20—30	.....	1:31.	.....	1:31.8
30—40	.....	1:32.5	.....	1:32.3
40—50	.....	1:34.1	.....	1:31.6
50—60	.....	1:34.4	.....	1:32.
60—70	.....	1:36.	.....	1:31.8
70—80	.....	1:37.3	.....	1:31.1
80—90	.....	1:35.	.....	1:31.8
20—60	.....	1:33.	.....	1:31.9
60—90	.....	1:36.1	.....	1:31.5

The conclusions of Tiedemann, and of Peacock, are in some degree modified by this examination of Boyd's numbers, which show a somewhat higher ratio of the weight of the brain to that of the body, and for the period of maturity (from twenty to sixty years), give a considerably less difference in this ratio for the two sexes.† The brain-weight of the female is, however, still seen to be somewhat greater in proportion to the weight of the body than that of the male. Here I must observe that the weight of the brain may be conceived to have a certain relation to that of the body, so far as this depends on the size and development of the muscles; but can hardly have any to the degree of "leanness" and "stoutness," or "emaciation" and "corpulence," which principally depend on the

* Peacock, l. c., Tables X and XI, p. 24.

† Dr. Boyd's tables do not enable us to calculate the limits between which the ratios fluctuate. Maxima and minima are given for both the body-weight and the brain-weight, but only for one instance of each, and these are not necessarily in the same individual. It must be remembered that the greater number of these brains were probably those of persons dying from chronic diseases.

presence or absence of fat in the areolar tissue, the mean amount of which may be different in the two sexes.

Though it may be questioned whether many useful physiological inferences are to be deduced from the ratio of the brain-weight to that of the body in the two sexes, the comparison of the brain-weight with the stature may yield more valuable conclusions. The calculations of M. Parchappe were founded on nineteen examples. Nine of these (five men and four women) were of high stature, and ten (five of each sex) were of low. From the measures and brain-weights in these cases, M. Parchappe inferred that, other things being equal, the weight of the brain in both sexes is relatively greater in tall persons than in short ones, the difference between the two being at the rate of 5 per cent.; *i. e.* the brain of a tall man being represented by 100, that of a man of short stature was 95. The difference in women was a little less.*

Dr. Boyd's tables do not enable us to calculate the relation of high and low stature in the same sex to the weight of the brain, but only the relations of the average stature to the brain-weight in the two sexes. I have abstracted the numbers for the period of maturity, from twenty to sixty years, and have arranged them so as to show the ratio of stature to brain-weight, and have compared with this the ratio of the weight of the body and that of the brain at the same ages. There were 795 brains weighed at these ages; those of men being about 15 per cent. in excess of the other sex (Table IX). The weight of the entire body was ascertained in 755 cases, and the stature in 770. This slight disproportion in the numbers is not sufficient to disturb the averages. The mean brain-weight for the entire period, from twenty to sixty years, is shown in Tables VII and VIII, and is in the ratio of 1000 for the men to 903 for the women. The average weight of the body is 98·7 lbs. avoirdupois for the men, and 86·1 lbs. for the women; the ratio being as 1000 to 812. The average stature is 66·5 inches for the men, and 62 inches for the women; the ratio being as 1000 to 932. These results are brought out in the tabular views which follow:

Ratio of Weight of Body and of Weight of Brain compared.

Ages.	Average Weight of Body.			Ratio of Weight of Body.			Ratio of Weight of Brain.	
	Male.	Female.		Male.	Female.		Male.	Female.
	lbs. av.	lbs. av.						
20—30 ...	92·9	86·9	...	1000	: 934	...	1000	: 912
30—40 ...	98·2	87·	...	1000	: 886	...	1000	: 894
40—50 ...	102·	84·6	...	1000	: 843	...	1000	: 896
50—60 ...	102·	86·	...	1000	: 832	...	1000	: 909
Average. } lb.	98·7	86·1	}	1000	: 872	...	1000	: 903
20—60 } kil.	44·752	39·039						

* Parchappe, 'Sur l'Encéphale,' 1836, pp. 76, 101, 102; Broca, l. c., p. 13.

Ratio of Stature and of Weight of Brain compared.

Ages.	Average Stature.			Ratio of Stature.			Ratio of Weight of Brain.	
	Male.	Female.		Male.	Female.		Male.	Female.
20—30	...	66·7	62·	...	1000 : 939	...	1000 : 912	
30—40	...	66·5	62·	...	1000 : 932	...	1000 : 894	
40—50	...	66·8	62·	...	1000 : 928	...	1000 : 896	
50—60	...	66·	62·	...	1000 : 939	...	1000 : 909	
Average.	Inches	66·5	62·	1000	: 932	...	1000	: 903
20—60		1·689	1·575					

We thus see that, according to these observations, the relations of the brain-weight to the stature in the two sexes are the reverse of those which it has to the mere weight of the body. Whilst the average weight of the brain in the female is greater by 3 per cent. than that of the male relatively to the average *weight of the body*; it is, by the same amount of 3 per cent., less than that of the male in relation to the *stature*.

IV. RACE AND ETHNOLOGICAL CHARACTERS.

The influence of race on the weight of the brain is no doubt considerable; but has hitherto been very partially investigated by actual weighings of that organ. The average weight of the encephalon may, perhaps, be regarded as ascertained for the English and Scotch, and with less precision for the French and Germans. All these, however, may be regarded as belonging to one great family, the so-called Indo-European, or Caucasian of Blumenbach; and though modern science may distinguish differing race-elements in these peoples, they are too much mixed to allow of the presumption of any material difference in the brain-weight. But some difference was probable, and is actually brought out in the tables before us (Tables VII, VIII). We will limit our attention to the first of these tables, that for the male sex, and to the period of life from twenty to sixty years, that of the mature man. I think it probable that Professor Welcker's estimate of 1390 grammes, or 49 oz., represents the mean weight of the male brain in Europeans generally for this period of life with sufficient accuracy; and if so, the separate peoples will range in the following order. Whether further inquiry will confirm this order is as yet doubtful; but a comparison of Tables V and VI, showing the brain-weights of the insane in the same peoples, seems to make this probable. Hitherto, no doubt, the brain-weights have been obtained from too restricted areas, and too much from one class of life. It is not at all unlikely that there may be a considerable difference in the brain-weight of the English, Scotch, French, and Germans, according to the county, department, or province to which they belong:—

Ratio of Brain-weight of different European Peoples.

	Oz.	Grmm.	Ratio of Brain-weight.	
Europeans (<i>Welcker</i>).....	49	1390	...	100
English (<i>Boyd</i>)	47·8	1354	...	97
" (<i>Peacock</i>)	49	1388	...	99
French* (<i>Parchappe</i>)	47·9	1358	...	98
Germans, &c. (<i>Wagner</i>) ...	48·3	1371	...	98·5
Scotch (<i>Peacock</i>)	50	1417	...	102

It is in the case of human races much more distinguished from each other than for the most part are the peoples of modern Europe that we may look for a notable difference in the average weight of the brain. This question has been hitherto chiefly investigated by means of gauging the skulls of different races, and so recovering the probable weight of the brain by calculation. There can be no doubt that the average cubic capacity of the skull and the average brain-weight are, *cæteris paribus*, in direct proportion to each other. According to Welcker, the average capacity of the German male skull is 1450 cubic centimetres, or 88 cubic inches English, and this corresponds with an average weight of brain of 49 oz., or 1390 grammes.† One cubic centimetre of cranial capacity represents rather less than one gramme weight of brain, viz., ·96 grmm. Tiedemann,‡ in Germany, and Morton,§ in America, have both gauged a large series of the skulls of different races, in order to determine the relative size of the brain; and in general, their results are in accordance. They show that the European skull is, on the average, decidedly larger than that of the Negro and Malay, and somewhat larger than that of the Mongol and American. This is seen in the following tabular view, in which I have calculated the

* The only brain-weights I find for the French not insane ("à l'état normal") are those of M. Parchappe ('*Sur l'Encéphale*,' 1836, Table IX). Out of forty-seven brain-weights in this table, there are only sixteen for the ages between twenty and sixty years, so that the average given above, as regards the French, must be taken merely as provisional. It is, indeed, much below the probable weight. I have shown, from the large series of 357 skulls from the cemeteries of Paris, which have been gauged by M. Broca, that the probable mean capacity of the male French skull is 1502 cubic centimetres, or 91 inches English. This capacity corresponds with a brain-weight of 1435 grmm. or 50·6 oz., which exceeds that of the Scotch, but requires to be corrected by the weight of the dura mater and fluids. Morton's cranial capacity for the "English, &c.," of 94 inches, corresponds with a brain-weight still greater, viz., 1480 grains. '*Memoirs of Anthropological Society of London*,' vol. i, 1865, p. 464.

† Welcker, loc. cit., p. 37, 140.

‡ Tiedemann, l. c., '*Phil. Trans.*,' 1836; '*Das Hirn des Negers*,' 1837. The tables of skulls in the separate work are expanded by many additional instances. I follow the figures as given by Welcker, p. 41, from Huschke.

§ Meigs, '*Catalogue of Human Crania*,' 1857, p. 17; Nott and Gliddon, '*Types of Mankind*,' 1854, p. 450. When the catalogue of the very large collection of crania made by Dr. J. Barnard Davis is published, we shall be able to speak with greater confidence of the cranial capacity of different races.

ratio. According to this, the male Negro skull has an average capacity scarcely if at all exceeding that of the European female, and in the other "lower" races the diminution approximates more or less to this ratio. Tiedemann's own figures show how far he erred when he asserts "that the cavity of the skull of the Negro in general is not smaller than that of the European."*

Ratio of Cubical Capacity of Skulls of different Races.

European, Male (<i>Welcker</i>)	100	
Do. Female „	90	
<hr/>		
	Male.	Averages.
European (<i>Tiedemann and Morton</i>) ...	100	100
Mongol (<i>Tiedemann 46</i>)	93	93.5
„ (<i>Morton</i>)	94	
American (<i>Tiedemann</i>)	95	94
„ (<i>Morton 18</i>)	93	
Negro (<i>Tiedemann 54</i>)	91	90.5
„ (<i>Morton 64</i>)	95	
Negro (<i>Peacock 4</i>)	88	
Hottentot (<i>Morton 8</i>)	86	91
Malay (<i>Tiedemann 98</i>)	89	
„ (<i>Morton</i>)	93	85
Australian (<i>Morton 8</i>)	88	
„ (<i>Peacock 3</i>)	77	

The observations as to the actual weight of the Negro brain given by Tiedemann are five in number, all those of men; and the weight, so far as can be made out from the variety in the standard employed, varied between 35 and 49 oz., the average being 42.7 oz. avoirdupois, or 1210 grammes. In calculating the average weight of these five brain-weights, I have allowed 8 oz., or 23 per cent., for the loss of one of them by maceration in spirit.

My friend, Dr. Peacock, has lately published five weights of the brains of Negroes and two of Negresses. The observations are too few to justify definitive conclusions, but so far as they go, they decidedly confirm the results arrived at by gauging the skulls, or rather show a greater difference between the brain-weight of the Negro and that of the European. Dr. Peacock's weights for the five Negroes varied from 42.5 to 46.3 oz.; the mean weight being 44.3 oz., or 1255 grammes. Those of the two Negresses weighed 41 and 46 oz. respectively; average, 43.5 oz.†

* L. c., p. 511. Tiedemann did not calculate the averages of his figures; had he done so he must have detected his error. He evidently wrote under a strong predilection for the Negro race, and with the view of justifying, as he expresses it, "the situation in society which had so lately been given to the Negro by the noble British Government." It was possible for a physiologist to write thus in 1836; it would scarcely be so for any one, avoiding partisan extremes on both sides of this controverted political question, to do so in 1866.

† Peacock, "On the Weight of the Brain in the Negro," 'Memoirs of Anthropological Society of London,' vol. i, 1865, pp. 65, 520. The two Negresses' brains, on the average, equal the weight of those of European females; and it is a curious fact

Three brain-weights of Negroes have been published still more recently, by Professor Barkow, of Breslau. They vary between 50·8, 45·9, and 38·9 oz.; and average 44·5 oz., or 1261 grammes in weight.* The first of these is the *heaviest* Negro's brain yet recorded, but even this does not exceed the *average* weight of that of the Scotchman between twenty and forty years of age.

Average Brain-weight of Europeans and Negroes compared.

Males.	Oz.	Grmm.	Ratio of Brain-weight.
Europeans	49	1390	... 100
Negroes (Tiedemann 4)	44·2	1252	... 90
„ (Peacock 5)	44·3	1255	... 90
„ (Barkow 3)	44·5	1261	... 90
„ (Average 12)	44·3	1255	... 90

Altogether, the decided influence of race on the weight of the brain in the Negro is scarcely to be questioned; and there can be little doubt that the smaller size of the brain in other melanous and lower races, will hereafter be made out by direct observation. The brains of the Hindoo, Hottentot, Bushman, and Australian, are probably of less weight even than that of the Negro;† but in all these comparisons the stature must be considered.

V. SOCIAL POSITION AND EDUCATION.

The average weight of the brain of the educated, and of those who occupy a superior social position, is no doubt greater than that that, according to Tiedemann, the twelve skulls of Negresses gauged by him rather exceeded in capacity that of twenty skulls of European women. We need further observations on this point.

* Barkow, 'Skelett und Gehirn Lehre,' 1865, s. 31, 46, 61. The ever-varying German weights are most troublesome; but, I believe, the equivalents are correctly given above. The German 'Med.-Gewicht' was in the first place reduced to oz. troy, by multiplying by ·960; the ounces were then converted into grains, and these again into ounces avoirdupois.

The weights of the brains of the four Negroes from Tiedemann in the above table are, I believe, correctly stated. The lightest must have weighed 40·25 oz. (and not "35" oz., as on the opposite page), when reduced from Nuremberg weight, and when the full allowance of 29 per cent., (11 oz.) is made for maceration in spirit. I omit the fifth brain ('Das Hirn des Negers,' p. 20), quoted from Mascagni, as, if not preserved in alcohol, it must have been quite microcephalous.

† The brain of the Bushwoman, so carefully and ably described by Professor John Marshall, F.R.S., is reported by him to have weighed 31·5 oz., or 893 grmm., or less than two thirds that of the average European female. The brain of the Bushwoman, known as the Hottentot Venus, was a very little larger. "On the Brain of a Bushwoman; and on the Brains of two Idiots, of European Descent;" 'Phil. Trans.,' 1864, vol. cliv, pp. 501, 508, 556. Dr. R. Quain gives the brain-weight of a Bosjes girl, aged 14, in height 40 inches, and who died of phthisis, as 34 oz., or 963 grmm. ('Pathol. Trans.' 1850, vol. ii, p. 182. This falls short even of the average weight of the brain of the female English child, between two and four years of age, in whom, according to the tables of Dr. Boyd, the brain-weight is 34·97 oz. (991 grmm.), and the average stature 31·6 inches. See Table IX, *post*; and 'Phil. Trans.,' vol. cli, p. 247.

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of the uneducated and lower class. Materials for the numerical proof of this position are at present not available; and it is very desirable that a sufficient number of facts should be collected for its solution. It may, however, be remarked that the average brain-weight of the more educated middle class of the insane weighed by me at York (Tables III and IV), is, for men at the middle period of life, decidedly above that of paupers in the county asylums for Somerset and Wilts. M. Broca's researches on the dimensions of the heads of students of medicine, as compared with those of servants in the large hospital of the Bicêtre, show a decided preponderance in favour of the students. He considers it as "certain that, other things being equal, whether the result of education or whether hereditary, the volume of the skull, and consequently of the brain, is greater in the superior than in the inferior classes."*

VI. MORBID CONDITIONS OF THE BRAIN—INSANITY, IDIOCY, &c.

Insanity.—A comparison of the average brain-weights observed in English asylums with those of persons unaffected by insanity seems to show distinctly that mental disorders, when fatal, are associated with a diminished brain-weight. This applies to both sexes and to all periods of life, but is especially apparent when the comparison is restricted to the male sex, and to persons of mature age, or from twenty to sixty years. A comparison of the Tables III, IV, V, and VI, with Tables VII and VIII, also shows that the average weight at successive ages differs less than in those unaffected by insanity. This is probably to be explained by the growth and development of the brain in those attacked before the middle period of life being arrested, and replaced by a tendency to premature atrophy of the brain. With the advance of age this atrophy, no doubt, progresses; though to what extent it is more potent in the aged insane than in the aged generally, we do not as yet know. Something may be due to the intellectual and social position of the insane in different asylums in producing this more uniform brain-weight at different ages. When, as in the counties of Somerset and Wilts,† the great majority belong to the peasant class, it may be inferred that the intellectual development proper to them, and with that the greatest weight of the brain, were attained at an earlier period of life than is the case in the educated and superior classes.

* Broca, "Sur la Capacité des Crânes Parisiens," 'Bull de la Soc. d'Anthrop.,' 1861, t. iii.

† It is not unimportant to observe that the low brain-weight of the insane of the pauper class of Wilts and Somerset is not peculiar to those counties, but seems to apply to the south-west of England generally. I have tabulated the 122 cases for Devonshire, published by Dr. Bucknill, and find the average weight at 20—60 years, to be 46 oz. (1303 grmm.), for men, and 43·5 oz. (1233 grmm.), for women. Reports of the brain-weights obtained for the insane in some of the asylums of the Northern and Eastern Counties are much to be desired.

Average Brain-weights of the Sane and Insane compared.

Males, 20—60 Years.		Oz.	Grmm.	Ratio of Brain-weight.	
Sane (<i>Welcker</i>)	.....	49	1390	...	100
„ (<i>Boyd</i>)	.....	47·8	1354	...	97
Insane.					
Somerset	.....	46·6	1320	...	95
Wilts	.....	46·3	1312	...	94
York	.....	48·7	1380	...	99
Averages	.....	46·6	1019	...	95
Females, 20—60 Years.		Oz.	Grmm.	Ratio of Brain-weight.	
Sane (<i>Welcker</i>)	.....	44	1250	...	90
„ (<i>Boyd</i>)	.....	43·1	1221	...	88
Insane.					
Somerset	.....	43·2	1224	...	88
Wilts	.....	41·1	1164	...	84
York	.....	43·1	1221	...	88
Averages	.....	42·4	1201	...	86

If this comparison of the brain-weights of the insane with those of Europeans generally, as determined by Welcker, be a just one, it would result that the average effect of mental alienation is to reduce the brain-weight by about 5 per cent. It may, however, be more correct to make the comparison with the brain-weights of a population nearly on a level in mental culture with that of the peasantry of Wilts and Somerset, and such as is perhaps afforded by Dr. Boyd's weights derived from the patients in the St. Marylebone parochial infirmary.* As shown in the above tabular view, the difference for the men is reduced by almost exactly one half, and stands at 2·5, in place of 5 per cent.

It has sometimes been maintained that insanity has the effect, not of diminishing, but of increasing the weight of the brain. This was at one time the opinion maintained by M. Parchappe,† though founded on the brain-weights of no more than forty-seven insane persons, of whom rather more than half were men. The mean increase in the brain-weight of the insane was computed by him at 5 per cent. In his second memoir, however, which is founded on a greater number of cases, he shows distinctly that in chronic insanity

* The weights of the brain obtained at the St. Marylebone Infirmary by Dr. Sims, several years before those by Dr. Boyd, give, when analysed, precisely the same average of 47·8 oz. for men between 20 and 60 years, as the much larger series by the later observer. Sims's weights for women, at the same period of life, are heavier than those of Dr. Boyd, by 1½ oz. (42·5 grmm.), and average 44·6 oz. (Peacock, *l. c.*, p. 19.)

† Parchappe, 'Recherches sur l'Encéphale, Prem. Mémoire,' 1836, pp. 77, 101, 102. Though not reasserted, I am not aware that this opinion, in regard to the brain-weight of the insane in general, has been retracted by M. Parchappe.

and likewise in insanity complicated with paralysis, constituting a very great majority of his cases, the mean weight of the brain is more or less decidedly inferior to that of the encephalon in its healthy state.* It is, moreover, probable that M. Parchappe's standard of 1352 (or 1358) grammes, as the average brain-weight of the healthy Frenchman, is much less than the true mean. The average brain-weight which, after Welcker, is assumed in this paper as that of the male European, is 1390 grammes; and Drs. Reid and Peacock's weights give 1417 grammes as that of the Scotch. The mean weight for the French, as M. Broca's cubic capacities of their skulls make probable, may be nearly as much.

In a third treatise † M. Parchappe, having more than doubled the number of his observations, again publishes the brain-weights of the insane collected by him at the asylum of St. Yon, near Rouen. These weights, still somewhat restricted in number, I have abstracted and given a place in Tables V and VI. We here see that the average weight for the insane male, at 20—60 years, exceeds by 25 grammes, or nine-tenths of an ounce, that which he assumed as the mean healthy weight, whilst that for the insane female falls short of his healthy standard by almost as much. One table, given by M. Parchappe, is of great interest. In it he arranges the brain-weights according to the form and duration of the mental disorder at the time of death, under the heads of acute and chronic mania, the latter being divided into four categories, according to the degradation of the intelligence. The average weight of the male brain in acute mania is stated as 1449 grammes, and that in chronic mania as 1363 grammes; the latter descending under its four subdivisions from 1402 to 1395, 1374 and 1297 grammes respectively.‡ The distinguished author adds—"The law of the gradual diminution of the brain in uncomplicated mania, in accordance with the successive degradation of intelligence, is, I think, placed beyond doubt by the facts I have observed."

The diminished mean weight of the encephalon in the insane who die in asylums doubtless depends on atrophy of the convolutions, the frequency of which in chronic insanity was first particularly insisted on by the very distinguished pathologist whose works I

* Parchappe, '*Recherches sur l'Encéphale, Deuxième Mémoire*,' 1838, pp. 144, 181, 186.

† Parchappe, '*Traité de la Folie*,' 1841, pp. 345—350.

‡ In '*Brit. and For. Med.-Chir. Review*,' Jan. 1865, vol. xxv, p. 219, and in '*Journ. Mental Science*,' Jan. 1865, vol. x, p. 512, Dr. Boyd gives papers and tables on the brain-weight of the insane as observed by him in the Somerset Co. Asylum, in which the weight, as influenced by the different forms of insanity, is treated. The greatest average weight was, for men, in mania; and, for women, in epilepsy, combined with idiocy. From the former of these papers we must regret the absence of the extended tables to which it refers. What we require to know, as regards the brain-weight, is not the form of insanity when the patient was brought under care, but that which existed at the time of death.

have here quoted. Our knowledge of this morbid condition has been very materially advanced by the admirable researches of Dr. Bucknill, who, by an ingenious method which he has described, estimated numerically the amount of the atrophy.* In 64 fatal cases of insanity of all descriptions, in both sexes and of all ages, Dr. Bucknill found, by direct experiment, that the average amount of atrophy equalled "five ounces and a quarter (148 grammes), varying from nothing to fifteen ounces, or one third of the whole cerebral mass. In thirteen patients whose ages exceeded sixty-five years the average amount of atrophy was eight ounces and one sixth, or more than 50 per cent. above that of the whole number. The amount in epileptic cases was greatly below the average of the whole." The greater exemption from atrophy of the brain in cases complicated with epilepsy, is also shown by M. Parchappe, whose heaviest brain-weights are those of epileptics, the next in order being in recent acute mania.

It is evident that the average brain-weight of those dying in asylums is made up of weights which are above the average of the healthy brain, and of others which are materially below it. Though in general the latter greatly predominate, the difference in the mean weight obtained by different observers may still result from a difference in the proportion in which brains above and brains below the average weight are met with. It is well known that the general paresis of the insane occurs with very different degrees of frequency in different asylums; and it is by no means improbable that the proportion of cases of fatal acute mania, of mania complicated with epilepsy, and of chronic mania, may materially differ in different countries, and even in different districts of the same country. For an accurate comparison of the brain-weights of the insane it will be essential that the character, complications, and duration of the mental disorder should be known.

Some observations of the weight of the brain in cases of insanity give averages so much above those generally observed as to deserve consideration. Dr. Skae, in 1854, compared the brain-weights which, up to that time, he had collected at the Royal Edinburgh Asylum, with those for the sane, collected by Drs. Reid and Peacock at the Royal Infirmary of Edinburgh.† From this comparison Dr. Skae inferred "that the average weight of the brain is increased in persons dying insane; the average weight in the insane (males), from fifteen to ninety years of age, being 50 oz. 2 dr., and in the sane 49 oz. 14 dr." I have been at the labour of extracting and classifying the brain-weights given by Dr. Skae in his annual reports for

* Bucknill, "Pathology of Insanity," 'Brit. and For. Med.-Chir Review,' 1855, v. xv, p. 207; Bucknill and Tuke, 'Psychol. Medicine,' 2nd ed., 1862, p. 419.

† 'Edin. Monthly Journ. of Med. Science,' Oct. 1854, p. 289.; 'Annual Report of Royal Edinburgh Asylum for 1854.' Appendix, p. viii.

the ten years from 1855 to 1864; and have thus increased the numbers analysed by him in 1854, from 199 to 560 cases. These, which are inserted in their proper places in Tables V and VI, show very nearly equally high figures with those originally given by Dr. Skae. On comparison, however, with the brain-weights of Scotchmen not affected by insanity, given in Tables VII and VIII, from Drs. Reid and Peacock's tables, no material difference is to be observed in the weights for the two classes of men; but as regards the women, the weight for the insane, from twenty to sixty years of age (45·9 oz., or 1300 gramm.), actually exceeds that for the sane by the considerable amount of one ounce, or 28·3 grammes. This result is certainly surprising; the brain-weights of the two classes, sane and insane, being for the most part derived from the same somewhat limited area of the Scottish capital and lowlands. It may, however, be presumed that the proportion of the educated and higher class was greater among the insane whose brains are compared.

Dr. Skae concludes that the greater average weight of the encephalon observed by him depends chiefly on *an increase in the weight of the cerebellum*. That the average weight of the cerebellum is somewhat greater in the insane than in the sane I believe to be proved by the facts hitherto collected. I have not gone into this question so fully as may be desirable; but the following comparison of the average weight of this organ (including the pons and medulla), in the two classes of sane and insane, for the male sex and the middle period of life, may be introduced here, and is not without interest.

Average Weight of the Cerebellum in the Sane and Insane.

Men, 20—60 years.

Sanc.			Insanc.			Excess.	
	Oz.	Grmm.		Oz.	Grmm.	Oz.	Grmm.
St. Marylebone (<i>Boyd</i>)	6·16	174 ...	Somerset (<i>Boyd</i>)	6·39	181 ...	·23	7
			Wilts (<i>Thurnam</i>)	6·75	191 ...	·59	17
Edinburgh (<i>Peacock</i>)	6·29	178 ...	Edinburgh (<i>Skae</i>)	6·55	185 ...	·26	7
Averages	6·22	176		6·56	185 ...	·36	10

The difference, it will be seen, ranges between ·23 and ·59 of an ounce, or between 7 and 17 grammes; which is scarcely sufficient to explain any increase in the weight of the brain as a whole. It may be inferred, however, that the cerebellum is not, like the cerebrum, liable to atrophy in chronic insanity, or at least not to the same extent.

The only series of brain-weights for insane Germans with which I am acquainted is that by Dr. Bergmann, of the asylum at Hildesheim, in Hanover. These weights, like those of Dr. Skae, are unusually heavy, as is seen on comparing them with those fixed on

by Welcker for the northern Germans in general. The weights for aged men, from sixty to eighty years, are unprecedented, whether for the sane or the insane. The data, however, are too restricted to inspire confidence. I have given the facts as I find them, translating only, by the aid of Wagner's table, the weights from German into avoirdupois ounces.

The *specific gravity* of the brain has, by recent researches, been shown to be greater in the insane than in the sane; though the difference, on the whole, appears to be limited to the gray matter. I take the following figures from the excellent paper by Dr. Charlton Bastian on this subject.*

Average Specific Gravity of Gray Matter.

Sane.			Insane.		
Bastian	1·0300	.....	Bastian	1·0325	
Sankey	1·0346	.....	Bucknill.....	1·037	
			Skæe	1·0391	
Averages...	1·0323			1·0362	

Average Specific Gravity of White Matter.

Sane.			Insane.		
Bastian	1·0404	.....	Bastian	1·0405	
Sankey	1·0412	.....	Bucknill.....	1·0390	
			Skæe	1·0424	
Averages...	1·0408			1·0406	

It has been suggested by M. Parchappe, and also by Dr. Skæe, that an increased weight of the brain in insanity might be connected with the increase in the specific gravity. The difference, however, is not adequate to explain such a result, except to a very small degree. Taking even the extreme numbers given above, and assuming that a brain of 50 ounces, or 1417 grmm., consists of gray and white matter in equal proportions, it will be found that the increase in the specific gravity would allow for an increase in the weight of less than a quarter ($\cdot 2245$) of an ounce, or 6·35 grmm. It would appear, from Dr. Skæe, that the highest specific gravity is in cases complicated with epilepsy. As a general rule, Dr. Bucknill observes, "The conditions which favour a high specific gravity are congestion and induration; those which favour a low one are œdema and fatty degeneration. A watery or œdematous condition of the brain is frequently met with in dementia and chronic insanity generally, and in such cases the specific gravity is low."†

* Bastian, "On the Specific Gravity of the Brain," 'Journal of Mental Science,' 1866, vol. xi, p. 465. Dr. Bastian's researches afford grounds for doubting whether the true average specific gravity of the gray matter in the insane has yet been ascertained.

† Bucknill, 'Psychol. Medicine,' 1862, p. 486.

Congenital Idiocy and Imbecility.—These conditions have, no doubt, a greater influence in reducing the average weight of the brain than chronic insanity properly so called. The diminution connected with idiocy was estimated by M. Parchappe at 18 per cent.; but it is highly probable that it is much greater. Materials, however, are as yet wanting to enable us to determine this question satisfactorily. Microcephaly is a common condition in the congenitally idiotic and imbecile; though in not a few of these unfortunates, the head is of good size and fair proportions. On the other hand, it must be remembered that dementia and acquired imbecility have frequently been confounded with true idiocy. It would be desirable if for the future the brain-weights of idiots were kept apart from those of the insane proper; but this, so far as I know, has been done only by M. Parchappe. There is, indeed, some difficulty in such a method, as many partially idiotic and imbecile persons are attacked with mania later in life, and are sent to asylums, not on account of the original defect, but on that of the mental disorder supervening upon it. Out of the 527 brains weighed at the Somerset County Asylum by Dr. Boyd, thirty-two are classed as those of idiots, as follows:

Brains of Idiots, Somerset County Asylum, 1848—1860.

	Male.	Female.	M. and F.
Idiocy.....	5	6	11
Idiocy with epilepsy.....	15	6	21
Totals.....	20	12	32

The weights of the brain in these cases is not separately given. Out of the 470 brains weighed at the Wilts County Asylum, there were twenty-two which may be regarded as those of idiots and imbeciles. Half of each sex were epileptic. Two of the male and one of the female sex were less than twenty years of age; the ages of the former varying from sixteen to fifty-two, and those of the latter from nine to forty-five years.

Brains of Idiots, Wilts County Asylum, 1851—1864.

	Male.	Female.	M. and F.
Idiocy and imbecility.....	7	4	11
Idiocy and imbecility with epilepsy.....	7	4	11
	14	8	22

The average weight of the fourteen male brains was 42 oz., or 1190 grammes; that of the eight female, 41.2 oz., or 1167 grmm. The average of these latter is almost identical with that of the rest of the female insane of the same series; but that of the male brains is very decidedly less, and nearly approximates to the proportion indicated by M. Parchappe.

Ratio of Brain-weight of the Sane and of Idiots compared.

	Male.	Female.
Sane	100	90
Idiots (<i>Wilts Co. Asylum</i>).....	84	82

These numbers, founded, as they are, on cases complicated with epilepsy,* may not, perhaps, be accepted as expressing the true ratio of the average weight of the brains of idiots; for determining which an extended series of classified observations, such as we may hope will be made by Dr. Down, the physician of the Idiot Asylum at Earlswood, is required.

VII. MICROCEPHALY AND MEGALOCEPHALY.

Any considerable series of brains, as also skulls, may be divided into those in which the weight of the brain, or capacity of the skull, greatly exceeds, on the one hand, or greatly falls short of, on the other, the average standard. In Table X, I have arranged the brain-weights obtained by me at the Wilts County Asylum, so as to show the numbers in which such excess or diminution existed; and, in the absence of other weights more suitable for the purpose, I have compared with them all the brain-weights of adults (twenty to ninety years), contained in the great table of Wagner. In the centre of the table are the *brains of medium size*, forming the great majority of the whole, viz., those of men weighing from 40 oz. (1130 grmm.) to 52½ oz. (1490 grmm.), and those of women weighing from 35 oz. (990 grmm.) to 47½ oz. (1345 grmm.); the range between the maxima and minima of these weights being one of 12·5 oz., or 355 grmm. Above these are placed the *megalocephalous*,† or great brains (sub-

* M. Parchappe has published the brain-weights of five male idiots and one female. ('*Traité de la Folie*,' p. 366-72). Two of the male sex were likewise epileptic; the weights varied between 970 and 1320, and had an average of 1141, grmm., or 40·2 oz.; being only a little less than those observed by myself. The brain of the female idiot weighed 720 grmm., or 25·4 oz.

Since the above was written Dr. Down has favoured me with a summary of the brain-weights in the 50 cases most recently examined by him; in which for the two sexes, 6—33 years, the average was 42·75 oz., or 1211 grmm.; being a little more than that observed by myself. The minimum weight, in a boy of 18, was 15 oz. (425 grmm.); the maximum, in a man of 22, was 59·5 oz. (1404 grmm.), or more than that of Whewell. Weight or *quantity* of the brain is not everything.

† I here substitute the term *megalocephalous*, introduced by Professor Lucae, for that of *macrocephalous*, as employed by Virchow in the same signification. The latter might, perhaps, have been the better for our language, had it not been applied by Hippocrates to the distorted long-heads of a people near the Caucasus; and had not modern craniologists, after the example of Von Baer, generally agreed to apply it to the skulls supposed to be those of the people described by the Father of Medicine. Virchow and Lucae agree in dividing their *macrocephaly* and *megaloccephaly* into water-heads and great-heads,—*hydrocephaly* and *kephalones*. It is with the brains of these last that we are here concerned. Welcker was the first to lay down a standard for judging of the commencement of kephalony.

divided into two classes), in determining the standard for which I have followed Professor Welcker. "Skulls of more than 540 to 550 millimetres in horizontal circumference (the weight of brain belonging to which is 1490 to 1560 grmm. (52·5—55 oz. avoirdupois), are to be regarded as exceptionally large. The designation of *kephalones*, proposed by Virchow, might commence from this point. Men with great mental endowments fall, for the most part, under the definition of kephalony. If we consider the relations of capacity, 1800 grmm. (63·5 oz.) appears to be the greatest attainable weight of brain within a skull not pathologically enlarged."* Welcker does not give a standard for kephalony in the female, which I supply by deducting about one tenth, five ounces (142 grmm.), or the difference between the average weight of the male and female brain, from the standard of male megalcephaly.

Microcephaly.—Neither has Professor Welcker indicated any standard for the *microcephalous* brain; but we may assume such a standard as the numerical reverse of the megalcephalic, and as much below the average medium weight as that is above it. The results which I have obtained, as regards microcephaly, tally very closely, as I have since observed, with those arrived at by M. Broca, from his analysis of Professor Wagner's table. "It is certain that below a particular limit of weight an intelligent human brain no longer remains. Professor Gratiolet fixed this limit at 900 grmm. (31·75 oz.), but without specifying the sex;" and M. Broca somewhat extends this limit when he fixes on 907 grmm., or 32 oz., as the limit for the female, and 1049 grmm., or 37 oz., as that for the normal male brain.† My numbers, deduced by a different method for extreme microcephaly, at which, as a rule, idiocy may be supposed to commence, are very nearly the same.

Estimated Brain-weight in the Microcephaly of Idiots.

	Male.			Female.	
	Oz.	Grmm.		Oz.	Grmm.
Broca	37·	1049	.....	32·	907
Thurnam	37·5	1062	.....	32·5	920
	<hr/>	<hr/>		<hr/>	<hr/>
Difference	·5	13		·5	13
	<hr/>	<hr/>		<hr/>	<hr/>

In estimating the weights of brains classed in the table as microcephalic we must distinguish those which owe their small weight in great measure to the atrophy of disease rather than to original

* Welcker, 'Wachsthum und Bau, des Menschlichen Schädels,' p. 140, comp. pp. 38—40.

† Broca, 'Sur le Volume et La Forme du Cerveau,' loc. cit., p. 22.

defect. This it is seldom easy to do with tabular statements, as the data are rarely minute enough to enable us to distinguish the one from the other. Out of the ten men observed by me with brains of a less weight than 37·5 oz., only five were congenital idiots or imbeciles, and in these the average weight was 35·2 oz., or 997 grmm. The others were four of them cases of dementia and one of epilepsy, and were all married men. Of the five women whose brains did not exceed 32·5 oz. not one was classed as a congenital imbecile or idiot. The cases were those of mania, melancholia, or dementia complicated with epilepsy or paralysis; three of them were married.

The microcephaly associated with idiotism has frequently been much more extreme than in any case embraced by the tables before us; and brains of idiots have been met with weighing as little as 21, 10, and even 8·5 oz., or 600, 283, and 241 grmm. It may be useful to collect here a few of the less marked cases which have fallen under my own observation, and to add to these some of a more marked character, which have been reported by others.

Brains of Microcephalous Idiots,—Males.

No.	Observer.	Age.	Weight of Brain.	
			Oz.	Grmm.
1.	Thurnam, <i>York</i> , 482*	29	35·75	1013
2.	„ <i>Wilts Co. A.</i> , 428 ...	22	35·5	1006
3.	Parchappe, 325†	45	34·2	970
4.	Thurnam, <i>Wilts Co. A.</i> , 581...	52	32·	907
5.	Peacock ‡	11	21·2	600
6.	Down, <i>Earlswood Idiot A.</i> ...	18	15·	425
7.	Owen §	22	13·125	372
8.	Theile ||	26	10·6	300
9.	Marshall ¶	12	8·5	241
Average			22·87	648

* Thurnam. The frontal portion of the falx major was absent, and the frontal lobes were invested in a common covering of pia mater and arachnoid. In Dr. Peacock's case (No. 5), the anterior portion of the falx was likewise deficient.

† Parchappe, '*Traité de la Folie*,' pp. 368, 371.

‡ '*Trans. Pathol. Soc. Lond.*,' 1859, vol. x, p. 15.

§ '*Trans. Zool. Soc.*,' vol. i, p. 343. Mus. St. Barth. Hosp., A, 123. In this case Professor Owen observes, "Nature may be said to have performed for us the experiment of arresting the development of the brain, almost exactly at the size which it attains in the chimpanzee, and where the intellectual faculties were scarcely more developed. Yet no anatomist would hesitate in at once referring the cranium to the human species." Vogt refines on this opinion. Eng. ed., pp. 145, 198.

|| Wagner, '*Vorstudien*,' ii, 3, 19.

¶ '*Phil. Trans.*' 1864, vol. cliv, p. 526. '*Anthrop. Review*,' 1863, vol. i, p. viii.

Brains of Microcephalous Idiots,—Females.

No.	Observer.	Age.	Weight of Brain.	
			Oz.	Gramm.
1.	Bucknill, <i>Devon Co. A.</i> , 155*	37	32·5	921
2.	Sims, 45†	12	27·	765
3.	Parchappe, 327‡	25	25·4	720
4.	Tuke, <i>York</i> , 372§	70	22·75	644
5.	Tiedemann ||	16	19·9	563
6.	Gore ¶	42	10·	283
Average			22·9	649

The last three cases, reported by Herr Theile, by my friend Mr. Gore, and by Professor Marshall, in which the brain weighed little more, or even considerably less, than 10 oz. (300, 283, down to 241 grammes), are among the curiosities of medicine and physiology. The wonder is that even the vital processes could have been carried on so long as they were with a central organ of the nervous system in so minimized a condition. Wagner regarded microcephaly as "belonging to a pathological development series, which occupies an intermediate place between anencephaly and hydrocephaly." His concluding inference is as follows: "The relation of the lobes of the cerebrum to intelligence may, perhaps, be expressed thus: there is a certain development of the mass of the cerebrum, especially of the convolutions, requisite in order to such a development of intelligence as divides man from animals."**

In microcephalous idiocy the brain-weight is not only very low absolutely, but the relative amount of brain to body is extraordinarily diminished. Thus, in the case of the two lightest human brains yet recorded, those of the two idiots so accurately described by Professor Marshall, the proportion of brain to body was only as 1 : 140 in the woman, and as 1 : 67 in the boy; in place of 1 : 33 and 1 : 14 respectively, as, judging from Dr. Boyd's tables, are the normal proportions. The ratio of brain to body being far greater in the growing individual than in the adult, the female idiot's brain, though considerably heavier than the boy's, was, when thus tested, comparatively only a little heavier, "the proportion of brain to body in both being somewhat less than one fourth of what it

* 'Brit. and For. Med.-Chir. Rev.,' 1855, vol. xv, p. 216.

† Sims, 'Med.-Chir. Trans.,' vol. xix, p. 353.

‡ Parchappe, 'Traite de la Folie,' pp. 368, 371.

§ Dr. D. H. Tuke has reported the examination of the brain of this idiot, who for many years was under my care and observation. Tuke and Bucknill, 'Psychol. Medicine,' ed. 2, 1862, p. 96.

|| 'Phil. Trans.,' 1836, vol. cxxvi, p. 502.

¶ 'Anthrop. Review,' 1863, vol. i, p. 168. 'Phil. Trans.,' 1864, vol. cliv, p. 525.

** Wagner, "Vorstudien," ii, 'Ueber den Hirnbau der Mikrocephalen,' p. 83.

would have been at corresponding ages in health. * * * In each, the deficiency in cerebral mass was greater than in cerebellar; the idiot boy had more cerebellum than the idiot woman; the idiot woman had more cerebrum than the idiot boy.”*

Megalocephaly.—Referring to the male brain-weights in Table X, which transcend the medium size, and which exceed 52·5 oz., or 1490 grammes, we find that about 10 per cent. of the male and about 7 per cent. of the female cases observed in the Wilts County Asylum are thus classed. Of the decidedly megalocephalous weights there are between 3 and 4 per cent. It will not surprise us that in the cases from the table of Wagner, consisting of a large majority of the encephala of the sane, the proportion of microcephaly is smaller than in the asylum cases, and that of megalocephaly very much larger, or more than double for the two sexes taken together. Many of Wagner’s cases are, no doubt, picked ones; and included in them are some of those of professors and other eminent persons.

Out of the brains weighed by me there are, as shown in this table, those of ten men and seven women which fall into the class of Decided Megalocephaly, as follows:

Decidedly Megalocephalous Brains of the Insane, Wilts Co. Asylum.

Male.—55 oz. or 1560 grmm. and upwards.					Female.—50 oz. or 1417 grmm. and upwards.					
No.	Age.	Oz.	Grmm.		No.	Age.	Oz.	Grmm.		
1 E.†	53	...	55	1560	.....	1.	19	...	50	1417
2 E.	35	...	55·5	1573	.....	2.	43	...	50	1417
3.	50	...	55·5	1573	.....	3.	47	...	51	1445
4.	55	...	55·5	1573	.....	4.	50	...	51·25	1452
5.	47	...	56·75	1608	.....	5.	55	...	51·5	1460
6.	28	...	57·25	1622	.....	6.	62	...	51·5	1460
7 E.	27	...	57·5	1629	.....	7.	80	...	53·25	1509
8.	57	...	58·5	1658						
9.	47	...	59·	1672						
10 E.	26	...	62·	1760						
Average		57·2	1623		Average		51·2	1451		

Dr. Boyd’s tables do not enable us to say how many megalocephalous brains were observed by him, but the maximum weights, most of which fall within the class of decided megalocephaly, are given for the several ages.

* Marshall, l. c., ‘Phil. Trans.’ 1864, pp. 528, 529.

† In the four cases distinguished by the letter E, Nos. 1, 2, 7, and 10, the patient suffered from epilepsy, which was the cause of death in all the cases.

Maximum Brain-weights. (Boyd.)

Sane.—St. Marylebone.					Insane.—Somerset Co. Asylum.				
Age.	Male.		Female.			Male.		Female.	
	Oz.	Grmm.	Oz.	Grmm.		Oz.	Grmm.	Oz.	Grmm.
7—14 ...	57·25	1622	52·	1473	.....	.	.	.	.
14—20 ...	58·5	1658	52·	1473	.....	.	.	.	.
20—30 ...	57·	1615	55·25	1565	.....	58·	1643	55·75	1580
30—40 ...	60·75	1721	53·	1502	.....	57·5	1629	55·75	1580
40—50 ...	60·	1700	52·5	1488	.....	57·75	1636	51·25	1452
50—60 ...	59·	1672	52·5	1488	.....	56·	1587	51·75	1466
60—70 ...	59·5	1686	54·	1530	.....	58·75	1665	48·25	1367
70—80 ...	55·25	1565	49·5	1403	.....	55·	1558	48·	1360
80— ...	53·75	1523	48·	1360	.....	49·75	1410	44·5	1261
All Ages. 7—80	60·75	1721	55·25	1565	.....	58·75	1665	55·75	1580

The large brains above reviewed are, with little exception, those of persons in the labouring or artisan class, and if in any of them there was an unusual degree of intelligence the sphere for its exercise must have been very limited. The heaviest brain weighed by me (62 oz., or 1760 grmm.) was that of an uneducated butcher (No. 373), who was just able to read, and who died suddenly of epilepsy combined with mania, after about a year's illness. The head was large, but well formed; the brain of normal consistence, the *puncta vasculosa* numerous. Epilepsy is often connected with an unusually large brain, and in four out of the ten decidedly megaloccephalous brains, weighed by me or by my assistants, the patient was epileptic. The heaviest brain-weight recorded by Dr. Bucknill (No. 160), is that of a male epileptic, aged thirty-seven; and in this instance the brain weighed 64·5 oz., or 1830 grmm., which was the weight of the brain of the celebrated Cuvier. With one exception, the maximum weight observed by M. Parchappe (No. 263), was also that of an epileptic man, aged thirty-one, in whose case the brain weighed 61·3 oz., or 1737 grmm. The heaviest female brain of which I find any mention is recorded by Dr. Skæe. The patient was not epileptic, but laboured under monomania of pride, dying at the age of thirty-nine, of an exhausting disease, phthisis. The brain had, for a woman, the monstrous weight of 61·5 oz., or 1743 grmm. In Dr. Peacock's tables, out of the 157 weights of the brains of adult Scotchmen, between twenty and sixty years of age, there are four in which this ranged from 61 to 62·75 oz., or from 1728 to 1778 grmm. They were all apparently of the artisan class; the occupation of three of them being those of sailor, printer, and tailor respectively. The causes of death were fever, delirium tremens, and, in two cases, severe compound fracture. All were cases more or less liable to be attended with cerebral congestion; and there is nothing to show that these individuals were distinguished from their fellows

by superior endowments. In estimating exceptionally large or exceptionally small brains, the weight should always be considered in relation to that of the body, and, if possible, to the stature likewise.* Many of these large-brained artisans and labourers were, no doubt, men of proportionately large frames; tall, perhaps, and with well-nourished muscular bodies. Unfortunately, in one only of the cases before us is the weight of the body recorded, namely, in the sailor aged twenty-three years (No. 23 in Dr. Peacock's Table I), in whom it amounted to 135 lbs. (61·211 kilogrammes), being 45 per cent. above Dr. Boyd's average for that period of life, which is 92·9 lbs. The proportion of the brain-weight to that of the body is as 1 : 35·3, being decidedly less than that shown on a previous page to be the mean proportion, and which, for this decade of life, is 1 : 31. In the educated and intellectual class the reverse of this, as is notorious, is often the case. The philosopher Kant, as Carus has observed, had a head not absolutely large, though in proportion to the small and puny body of this eminent thinker it was of remarkable size. The same observation may be made as to the heads of well-known eminent men, statesmen and others, still living in England.

Professor Welcker has already been quoted for the opinion that 1800 grammes (64·5 oz.), is the greatest attainable weight of brain within a skull not pathologically enlarged. This opinion appears to be confirmed by experience. The celebrated Cuvier had a brain of 1830 grammes,† but he is said to have suffered from hydrocephalus when young. I have quoted above the brain of an epileptic of the same weight; but it is clear that the congested and abnormally heavy brains of epileptics must be excluded from this comparison. The encephala of many great men have been justly assumed very much to exceed the standard. Such are those of Cromwell, Pascal, Byron, and Napoleon I; but of their precise size or weight, we cannot speak with certainty. Next to the brain of Cuvier, will stand that of the distinguished physician of Edinburgh, Dr. Abercrombie, weighing 63 oz., or 1785 grammes.‡ After it, at a considerable interval, comes that of Spurzheim; then the brains of the celebrated mathematician of Gottingen, Dirichlet, and of the Duc de Morny, each weighing 1520 grammes; then those of the American

* The observations of Professor James Forbes, read to the Royal Society of Edinburgh, and printed in the English edition of Quetelet "On Man," 1842, p. 113, give both a heavier average weight and higher stature to the Scotch, than to the English.

† I follow M. P. Broca ("Sur le Volume du Cerveau," &c., 'Bull. de la Soc. d'Anthrop.' t. ii), in giving the weight of Cuvier's brain as 1830 ("1829·96"), and not 1861 grammes, as it appears in the great table of Wagner; in which, even when thus corrected, it will still stand as the heaviest healthy brain. The difference between the two weights is 1·3 oz., or 31 grammes.

‡ As reported by Professor Goodsir, 'Edin. Med. Surg. Journ.,' 1845, vol. lxiii, p. 231. For the brain of Spurzheim, see 'Phrenol. Journ.,' ix, 567.

statesman, Daniel Webster; the Lord Chancellor Campbell,* and the celebrated divine, Dr. Chalmers;† to be followed by those of professors in the University of Gottingen,‡ whose names are less familiar to us in England, but with which that of the celebrated surgeon Dupuytren,§ and that of the well-known physiologist Tiedemann are associated, as having a similar rank in regard to weight. These I have collected in the following table, as affording the best data within our reach for an approximate numerical estimate of the brain-weight of the intellectual and cultivated as distinguished from that of the average man:

Brain-weights of Distinguished Men.

	Age.	Oz.	Grmm.	Ratio.
1. Cuvier, <i>Naturalist</i>	63	64.5	1830	113
2. Abercrombie, <i>Physician</i>	64	63	1785	128
3. Spurzheim, <i>Physician</i>	56	55.06	1559	112
4. Dirichlet, <i>Mathematician</i>	54	53.6	1520	109
5. De Morny, <i>Statesman and Courtier</i>	50	53.6	1520	109
6. Daniel Webster, <i>Statesman</i>	70	53.5	1516	109
7. Campbell, <i>Lord Chancellor</i>	80	53.5	1516	109
8. Chalmers, <i>Celebrated Preacher</i>	67	53	1502	108
9. Fuchs, <i>Pathologist</i>	52	52.9	1499	107
10. Gauss, <i>Mathematician</i>	78	52.6	1492	107
11. Dupuytren, <i>Surgeon</i>	58	50.7	1436	103
12. Whewell, <i>Philosopher</i>	71	49	1390	100
13. Hermann, <i>Philologist</i>	51	47.9	1358	97
14. Tiedemann, <i>Physiologist</i>	80	44.2	1254	90
15. Hausmann, <i>Mineralogist</i>	77	43.2	1226	88
<hr/>				
Average of ten distinguished men	50—70	54.7	1552	111
<hr/>				
Average of fifteen || distinguished men...	50—80	52.7	1493	107

When we examine this table, we find that, with five exceptions, three being those of aged men, the brain-weights fall within the limits I have assigned to megaloccephaly; and, altogether, that they decidedly confirm the generally received view of the connection between size of brain and mental power and intelligence. If the examination of the brain in the upper ranks, and in men whose

* The brain-weight of the Lord Chancellor Campbell I take from the report by Mr. Acton ('Lancet,' Aug., 1861, ii, 193); that of the Duc de Morny from the newspapers, as confirmed by a distinguished anthropologist of Paris.

† See, for the brain of Chalmers, Dr. Begbie, in 'Edin. Monthly Journ. Med.,' vol. xii, p. 202, March, 1851; and the unsatisfactory article on the brain of Daniel Webster, 'Edin. Med. Surg. Journ.,' April, 1853, vol. lxxix, p. 355.

‡ For the brain-weights of the Gottingen professors, and for that of Tiedemann, see Wagner, 'Vorstudien des Menschlichen Gehirns,' I, 33; II, 93. Bischoff expressly names the atrophy of Tiedemann's brain. Welcker, 'Zwei Difform,' p. 12.

§ I take the weight assigned to the brain of Dupuytren in the 'Lancette Française,' 1835, No. 20, and which is generally received in Paris; but according to other reports, and as from his portraits one might readily believe, it was much heavier. (Wagner, 'Vorstudien,' i, p. 96, 'Northern Journ. Med.,' x, Feb., 1845.)

|| As this is passing through the press, the brain-weight of an English

mental endowments are well known, was more often allowed, this connection, there can be little doubt, would rest on more extended evidence than at present. Omitting from the estimate the encephala of four octogenarians, some of which were more or less reduced by senile atrophy, there remain ten brain-weights with an average of 54·7 oz., or 1552 grmm. This, which, for the present, may be assumed as the standard of the brain-weight of highly-endowed men, gives us an average of more than seven and a half ounces, or 217 grammes, above that which may be taken as the mean brain-weight of the average European at from 50 to 70 years of age.*

Brain-weights of Average and of Distinguished Men.

	Years.		Oz.	Grmm.	Ratio.
European—Average men	20—60 ...		49	1390 ...	100
“ “	50—70 ...		47·1	1335 ...	96
Ten distinguished men	50—70 ...		54·7	1552 ...	111
Excess in favour of the latter			7·6	217 ...	15

• Cultivated and intellectual man, according to the data before us, is endowed with a brain heavier by 15 per cent. than the average.

The doctrine of the connection between the size of the brain and great intellect has recently been much controverted, by men as distinguished as the late Professor Gratiolet in France and Professor Wagnert in Germany. They have, however, been answered, the former by M. Broca,† and the latter by Professor Welcker;§ to whose writings on this subject I must here content myself by referring.

Quetelet, writing in 1835, observed, “ We have but very few data on the law of development of the brain, or upon its size and weight at different ages, either as regards average value or extreme limits.”|| Through the labours of another generation of medical observers, this reproach of the distinguished Belgian statist is no longer applicable. But, at the same time, it has been shown that there are many deficiencies remaining in this department of knowledge, which it behoves those who have time and opportunity for the task to endeavour gradually to supply. In this paper, something has been attempted towards the “ thorough critical sifting” of the brain-weights hitherto reported, and which, as it has been pointed out by Professor Vogt,¶ they so much required.

philosopher, of wonderful versatility, industry, and power,” William Whewell, D.D., who died at the age of 71, is reported by Dr. Humphry, of Cambridge, as 49 oz., or 1390 grmm. (‘Lancet,’ March 17, 1866, i, p. 279.) The brain, though “shrunk” and in “an atrophic state,” must have once been megaloccephalous.

* See Table VII. 1335 grammes, or the mean between 1365 and 1306 grmm.

† Wagner, ‘Vorstudien,’ II, 1862. ‘Nachrichten Gott.,’ 1862, Nov. 12, p. 478.

‡ Broca, “Sur le Volume et la Forme du Cerveau,” ‘Bull. de la Soc. d’Anthrop.’ 1861, t. ii, *passim*.

§ “Gehirngrösse und Intelligenz,” in ‘Zwei seltene Difformitäten,’ &c., 1863, 12—19. || ‘Sur L’Homme,’ iv, 1.

¶ Vogt, ‘Vorlesungen über den Menschen,’ 1863, iii, 102, Eng. ed., p. 86.

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TABLE I.—*Maximum, Minimum, and Average Weights of the Brain at different Ages, as observed in 257 Men, at the Wilts County Asylum, 1851—1864.*

AGES OF MEN.	Numbers weighed.	Maximum Weights (Oz.).			Minimum Weights (Oz.).			Average Weights (Oz.).			Average Weights (Grmm.).		
		Cerebrum.	Cerebellum, &c.	Encephalon.	Cerebrum.	Cerebellum, &c.	Encephalon.	Cerebrum.	Cerebellum, &c.	Encephalon.	Cerebrum.	Cerebellum, &c.	Encephalon.
From 16 to 20 years	6	46.5	7.0	53.5	37.0	5.0	43.0	40.7	5.9	46.6	1153	167	1320
" 20—30 "	20	54.0	8.0	62.0	30.0	5.0	35.5	42.0	6.2	48.2	1190	175	1365
" 30—40 "	50	49.0	7.5	55.5	30.5	3.25	35.2	39.0	6.0	45.0	1105	170	1275
" 40—50 "	50	52.0	7.0	59.0	32.0	5.0	38.0	40.5	6.1	46.6	1147	173	1320
" 50—60 "	48	51.5	7.0	58.5	27.5	4.5	32.0	40.5	6.0	46.5	1147	170	1317
" 60—70 "	43	47.2	7.5	53.5	32.2	4.7	38.0	40.4	6.0	46.4	1145	170	1315
" 70—80 "	29	46.0	7.7	53.0	31.7	5.2	37.2	40.0	6.0	46.0	1133	170	1303
" 80—87 "	11	47.0	6.7	53.7	32.0	5.0	38.0	38.9	5.9	44.8	1102	167	1269
" 16—87 "	257	54.0	8.0	62.0	27.5	3.25	32.0	40.2	6.0	46.2	1139	170	1309
From 16 to 20 years	6	46.5	7.0	53.5	37.0	5.0	43.0	40.7	5.9	46.6	1153	167	1320
" 20—60 "	168	54.0	8.0	62.0	27.5	3.25	32.0	40.3	6.0	46.3	1142	170	1312
" 60—87 "	83	47.2	7.7	53.7	31.7	4.7	37.2	40.1	6.0	46.1	1136	170	1306
Totals and averages } From 16 to 87 years	257	54.0	8.0	62.0	27.5	3.25	32.0	40.2	6.0	46.2	1139	170	1309

TABLE II.—*Maximum, Minimum, and Average Weights of the Brain at different Ages, as observed in 213 Women, at the Wilts County Asylum, 1851—1884.*

AGES OF WOMEN.	Numbers weighed.	Maximum Weights (Oz.).			Minimum Weights (Oz.).			Average Weights (Oz.).			Average Weights (Grmm.).		
		Cerebrum.	Cerebellum, &c.	Encéphalon.	Cerebrum.	Cerebellum, &c.	Encéphalon.	Cerebrum.	Cerebellum, &c.	Encéphalon.	Cerebrum.	Cerebellum, &c.	Encéphalon.
9 years	1	42.0	4.0	46.0	...	...	...	42.0	4.0	46.0	1190	113	1303
From 10 to 20 years	2	43.0	7.0	50.0	35.5	5.5	41.0	39.2	6.3	45.5	1111	178	1289
" 20—30 "	12	40.7	6.5	47.7	28.0	4.5	32.7	36.0	5.5	41.5	1020	156	1176
" 30—40 "	30	41.0	6.0	47.0	26.0	4.5	30.7	35.0	5.5	40.5	992	156	1148
" 40—50 "	28	44.5	6.5	51.0	27.0	4.2	32.2	36.0	5.4	41.4	1020	153	1173
" 50—60 "	40	46.0	6.7	51.5	28.5	3.5	32.5	35.7	5.3	41.0	1011	150	1161
" 60—70 "	36	46.0	6.5	51.5	27.5	4.2	33.2	36.6	5.4	42.0	1037	153	1190
" 70—80 "	43	40.0	6.0	45.2	27.0	4.5	31.5	34.8	5.2	40.0	986	147	1133
" 80—90 "	19	47.5	6.0	53.2	30.0	4.5	34.5	35.2	5.3	40.5	997	150	1147
" 90—92 "	2	37.5	5.5	43.0	30.0	4.5	34.5	33.7	5.0	38.7	955	141	1096
" 9—92 "	213	47.5	7.0	53.2	26.0	3.5	30.7	35.6	5.4	41.0	1009	153	1162
From 9 to 20 years	3	43.0	7.0	50.0	35.5	5.5	41.0	40.1	5.5	45.6	1136	156	1292
" 20—60 "	110	46.0	6.7	51.5	26.0	3.5	30.7	35.7	5.4	41.1	1011	153	1164
" 60—92 "	100	47.5	6.5	53.2	27.0	4.2	31.5	35.4	5.3	40.7	1003	150	1153
Totals and averages } From 9 to 92 years	213	47.5	7.0	53.2	26.0	3.5	30.7	35.6	5.4	41.0	1009	153	1162

TABLE III.—Average Weights of the Brain at different Ages, as observed in 579 Men, at three English Asylums for the Insane.

AGES OF MEN.	SOMERSET COUNTY ASYLUM.			WILTS COUNTY ASYLUM.			YORK RETREAT.			THREE ASYLUMS. Totals and Averages.		
	Numbers Weighed.	Average Weights.		Number Weighed.	Average Weights.		Number Weighed.	Average Weights.		Number Weighed.	Average Weights.	
		Oz. Av.	Grmm.		Oz. Av.	Grmm.		Oz. Av.	Grmm.		Oz. Av.	Grmm.
From 10 to 20 years ...	6	43·8	1241	6	46·5	1317	...	...	...	12	45·1	1278
" 20—30 "	39	48·2	1365	20	48·2	1365	1	35·7	1011	60	47·9	1358
" 30—40 "	61	46·1	1306	50	45·0	1275	5	48·8	1383	116	45·7	1296
" 40—50 "	77	45·6	1292	50	46·6	1320	4	50·2	1423	131	46·1	1306
" 50—60 "	43	47·7	1351	48	46·5	1317	7	49·6	1405	98	47·2	1338
" 60—70 "	39	47·8	1354	43	46·4	1315	4	42·5	1204	86	46·8	1327
" 70—80 "	21	46·8	1326	29	46·0	1303	6	43·1	1221	56	46·0	1303
" 80—90 "	8	43·9	1244	11	44·8	1269	1	39·5	1120	20	44·1	1250
From 20 to 90 years ...	288	46·7	1323	251	46·2	1309	28	46·3	1312	567	46·5	1317
From 10 to 20 years ...	6	43·8	1241	6	46·5	1317	...	...	...	12	45·1	1278
" 20—60 "	220	46·6	1321	168	46·3	1312	17	48·7	1380	405	46·6	1320
" 60—90 "	68	47·0	1332	83	46·1	1306	11	42·6	1207	162	46·2	1309
Totals and Averages } From 20 to 90 years }	288	46·7	1323	251	46·2	1309	28	46·3	1312	567	46·5	1317

TABLE IV.—Average Weights of the Brain at different Ages, as observed in 474 Women, at three English Asylums for the Insane.

AGES OF WOMEN.	SOMERSET COUNTY ASYLUM.				WILTS COUNTY ASYLUM.				YORK RETREAT.				THREE ASYLUMS. Totals and Averages.			
	Number Weighed.	Average Weights.		Number Weighed.	Oz. Av.	Average Weights.		Number Weighed.	Oz. Av.	Average Weights.		Number Weighed.	Oz. Av.	Average Weights.		Number Weighed.
		Oz. Av.	Grmm.			Oz. Av.	Grmm.			Oz. Av.	Grmm.			Oz. Av.	Grmm.	
From 10 to 20 years ...	...	...	...	2	45.5	1289	...	...	...	...	...	2	45.5	1289	...	...
" 20—30 "	30	44.5	1262	12	41.5	1176	...	1	43.5	1238	...	43	43.7	1238	...	...
" 30—40 "	49	44.0	1247	30	40.5	1148	...	2	42.3	1199	...	81	42.7	1210	...	...
" 40—50 "	49	42.2	1196	28	41.4	1173	...	8	43.2	1224	...	85	42.0	1190	...	...
" 50—60 "	39	43.2	1224	40	41.0	1161	...	...	...	...	...	79	42.1	1193	...	...
" 60—70 "	41	42.7	1210	36	42.0	1190	...	13	42.8	1213	...	90	42.4	1202	...	...
" 70—80 "	20	41.9	1187	43	40.0	1133	...	5	39.6	1122	...	68	40.5	1148	...	...
" 80—90 "	5	40.5	1148	19	40.5	1148	...	2	42.1	1193	...	26	40.6	1151	...	...
From 20 to 90 years ...	233	42.6	1207	208	41.0	1161	...	31	42.3	1199	...	472	41.9	1188	...	...
From 10 to 20 years ...	...	...	...	2	45.5	1289	...	...	...	...	...	2	45.5	1289	...	...
" 20—40 "	167	43.2	1224	110	41.1	1164	...	11	43.1	1221	...	288	42.4	1202	...	...
" 60—90 "	66	41.7	1182	98	40.7	1154	...	20	41.9	1187	...	184	41.2	1167	...	...
Totals and Averages } From 20 to 90 years }	233	42.9	1216	208	41.0	1161	...	31	42.3	1199	...	472	41.9	1188	...	...

TABLE V.—Average Weights of the Brain in 579 Insane Englishmen, compared with those in 323 Scotch, 159 French, and 152 Germans, in the same Mental Condition.

Ages of Men.	ENGLISH (Three Asylums).			SCOTCH (Royal Edinburgh Asylum)			FRENCH (St. Yon, near Rouen).			GERMAN (Hildesheim, Hanover).		
	Numbers	Average Weights.		Numbers	Average Weights.		Numbers	Average Weights.		Numbers	Average Weights.	
		Oz. Av.	Grmm.		Oz. Av.	Grmm.		Oz. Av.	Grmm.		Oz. Av.	Grmm.
From 10 to 20 years ...	12	45.1	1278	8	45.7	1295	2	47.8	1355	8	42.3	1199
" 20—30 "	60	47.9	1358	41	49.8	1411	17	49.7	1409	28	51.4	1456
" 30—40 "	116	45.7	1296	81	50.4	1428	42	49.8	1411	43	49.3	1397
" 40—50 "	131	46.1	1306	76	50.3	1425	46	48.2	1366	38	49.7	1408
" 50—60 "	98	47.2	1338	61	50.4	1428	31	47.5	1346	18	49.8	1412
" 60—70 "	86	46.8	1327	43	48.4	1371	14	47.1	1334	12	49.8	1412
" 70—80 "	56	46.0	1303	10	51.3	1454	7	46.4	1315	5	50.4	1428
" 80—90 "	20	44.1	1250	3	48.6	1377				.	.	.
From 20 to 90 years ...	567	46.5	1317	315	50.0	1417	157	48.1	1363	144	49.9	1414
From 10 to 20 years ...	12	45.1	1278	8	45.7	1295	2	47.8	1355	8	42.3	1199
" 20—60 "	405	46.6	1320	259	50.3	1425	136	48.8	1383	127	49.9	1414
" 60—90 "	162	46.2	1309	56	48.9	1386	21	46.7	1324	17	50.0	1417
Totals and Averages } From 20 to 90 years }	567	46.5	1317	315	50.0	1417	157	48.1	1363	144	49.9	1414

TABLE VI.—Average Weights of the Brain in 474 Insane English Women compared with those in 237 Scotch, 125 French, and 90 Germans, in the same Mental Condition.

AGES OF WOMEN.	ENGLISH (Three Asylums).			SCOTCH (Royal Edinburgh Asylum).			FRENCH (St. Yon, near Rouen).			GERMAN (Hildesheim, Hanover).		
	Numbers Weighed.	Average Weights.		Numbers Weighed.	Average Weights.		Numbers Weighed.	Average Weights.		Numbers Weighed.	Average Weights.	
		Oz. Av.	Grmm.		Oz. Av.	Grmm.		Oz. Av.	Grmm.		Oz. Av.	Grmm.
From 10 to 20 years ...	2	45.5	1289	4	40.2	1139	...	...	...	2	40.2	1139
" 20—30 "	43	43.7	1238	27	45.0	1275	10	43.2	1224	17	44.5	1261
" 30—40 "	81	42.7	1210	59	44.9	1272	25	43.9	1244	20	43.9	1244
" 40—50 "	85	42.0	1190	54	44.3	1255	32	42.8	1214	19	41.5	1176
" 50—60 "	79	42.1	1193	50	45.2	1281	19	43.0	1218	14	42.5	1204
" 60—70 "	90	42.4	1202	31	43.3	1227	21	41.5	1175	15	42.9	1216
" 70—80 "	68	40.5	1148	11	44.2	1253	18	40.5	1149	3	42.9	1216
" 80—90 "	26	40.6	1151	1	41.5	1176				...	...	...
From 20 to 90 years ...	472	41.9	1188	233	45.5	1289	125	42.5	1205	88	43.1	1221
From 10 to 20 years ...	2	45.5	1289	4	40.2	1139	...	...	...	2	40.2	1139
" 20 to 60 "	288	42.4	1202	190	45.9	1300	86	43.2	1224	70	43.1	1221
" 60—90 "	184	41.2	1167	43	43.5	1233	39	41.0	1162	18	42.9	1216
Totals and Averages } From 20 to 90 years }	472	41.9	1188	233	45.5	1289	125	42.5	1205	88	43.1	1221

TABLE VII.—Average Weights of the Brain at different Ages, as observed in 1077 Men in different Countries of Europe.

AGES OF MEN.	ENGLISH (<i>Boyd</i>).				SCOTCH (<i>Peacock</i>).				GERMANS, FRENCH, AND ENGLISH (<i>Wagner</i>).						ENGLISH, SCOTCH, AND GERMANS. Totals and Averages.*		
	Average Weights.				Average Weights.				As by M. Broca.						Numbers Weighed.	Average Weights.	
	Numbers Weighed.	Oz. Av.	Grmm.	Numbers Weighed.	Oz. Av.	Grmm.	Numbers Weighed.	Oz. Av.	Grmm.	Numbers Weighed.	Oz. Av.	Grmm.	Numbers Weighed.	Oz. Av.	Grmm.		
From 10 to 20 years	19	48.5	1374	17	49.6	1405	11	51.7	1465	23	47.5	1346	47	49.6	1405		
" 20 — 30 "	59	47.9	1357	40	50.8	1439	13	47.3	1341	67	49.5	1404	112	48.9	1385		
" 30 — 40 "	110	48.2	1366	41	51.0	1445	36	49.7	1410	137	49.5	1404	187	49.0	1389		
" 40 — 50 "	137	47.7	1352	44	49.2	1394	36	49.1	1391	123	48.6	1379	217	48.2	1366		
" 50 — 60 "	119	47.4	1343	32	49.6	1405	31	47.3	1341	88	48.1	1365	182	47.7	1352		
" 60 — 70 "	127	46.4	1315	18	48.5	1374	51	46.7	1326	65	46.1	1306	332	46.2	1309		
" 70 — 80 "	104	45.5	1289	5	48.1	1363	27	47.9	1356	27	47.9	1356					
" 80 — 90 "	24	45.3	1284	3	49.8	1411	8	43.8	1242	8	43.8	1242					
From 20 to 90 years	680	47.1	1334	183	49.7	1408	167	48.0	1362	515	47.7	1351	1030	47.7	1351		
From 10 to 20 years	19	48.5	1374	17	49.6	1405	11	51.7	1465	23	47.5	1346	47	49.6	1405		
" 20 — 60 "	425	47.8	1354	157	50.0	1417	116	48.3	1370	415	49.0	1390	698	48.4	1371		
" 60 — 90 "	255	45.9	1300	26	48.8	1382	51	46.7	1326	100	45.9	1301	332	46.2	1309		
Totals and Averages From 20 to 90 years	680	47.1	1334	183	49.7	1408	167	48.0	1362	515	47.7	1351	1030	47.7	1351		

TABLE VIII. — *Average Weights of the Brain at different Ages, as observed in 1002 Women in different Countries of Europe.*

AGES OF WOMEN.	ENGLISH (<i>Boyd</i>).			SCOTCH (<i>Peacock</i>).			GERMANS, FRENCH, AND ENGLISH (<i>Wagner</i>).				ENGLISH, SCOTCH, AND GERMANS. Totals and Averages.*				
	Numbers Weighed.	Average Weights.		Numbers Weighed.	Average Weights.		Numbers Weighed.	Average Weights.		Numbers Weighed.	Average Weights.				
		Oz. Av.	Grmm.		Oz. Av.	Grmm.		Oz. Av.	Grmm.						
From 10 to 20 years	16	43.9	1244	15	44.4	1260	13	45.3	1285	18	43.1	1221	44	44.5	1262
" 20 — 30	72	43.7	1238	26	44.9	1272	20	44.0	1249	54	44.1	1251	118	43.9	1244
" 30 — 40	89	43.0	1218	33	45.2	1281	17	44.5	1262	71	44.8	1272	139	43.7	1238
" 40 — 50	106	42.8	1213	23	45.1	1278	25	44.4	1261	82	43.5	1234	154	43.4	1229
" 50 — 60	103	43.1	1221	7	45.1	1278	15	43.6	1236	51	43.5	1234	125	43.3	1227
" 60 — 70	149	42.6	1207	14	43.2	1224	32	42.4	1203	62	42.8	1213	422	41.6	1178
" 70 — 80	148	41.2	1167	2	42.6	1207				31	40.9	1159			
" 80 — 90	77	39.7	1125	...	...	...				6	40.7	1154			
From 20 to 90 years	744	42.3	1199	105	44.3	1255	109	43.6	1236	357	43.0	1217	958	42.7	1210
From 10 to 20 years	16	43.9	1244	15	44.4	1260	13	45.3	1285	18	43.1	1221	44	44.5	1262
" 20 — 60	370	43.1	1221	89	45.0	1275	77	43.9	1244	258	44.0	1247	536	43.5	1233
" 60 — 90	374	41.5	1176	16	42.9	1216	32	42.4	1203	99	41.5	1175	422	41.6	1178
Totals and Averages From 20 to 90 years	744	42.3	1199	105	44.3	1255	109	43.6	1236	357	43.0	1217	958	42.7	1210

** The numbers from Wagner's table, abstracted by Professor Welcker and myself, and given in the preceding columns, include the brains of many insane persons, and also those abstracted by M. Broca from the same table. They are therefore not included in these tables and averages.

TABLE IX.—*Average Weights of the Brain at all Periods of Existence, as observed by Dr. Boyd, in 2030 Cases, at the Infirmary of St. Marylebone, London. 1839—1847.*

AGES.	MALE.			FEMALE.		
	Numbers Weighed.	Average Weights.		Numbers Weighed.	Average Weights.	
		Oz. Av.	Grmm.		Oz. Av.	Grmm.
Premature, stillborn	25	5·6	159	18	4·62	131
Stillborn, full period	43	13·87	393	31	12·25	347
New born	42	11·67	331	39	10·0	283
Under 3 months ...	16	17·42	493	20	15·94	452
From 3 to 6 months	15	21·3	603	25	19·76	560
„ 6—12 „	46	27·4	777	40	25·7	728
„ 1— 2 years	34	33·25	942	33	29·8	844
„ 2— 4 „	29	38·7	1097	29	34·97	991
„ 4— 7 „	27	40·23	1140	19	40·11	1136
„ 7—14 „	22	45·96	1302	18	40·78	1155
„ 14—20 „	19	48·54	1374	16	43·94	1244
„ 20—30 „	59	47·9	1357	72	43·7	1238
„ 30—40 „	110	48·2	1366	89	43·0	1218
„ 40—50 „	137	47·7	1352	106	42·8	1213
„ 50—60 „	119	47·4	1343	103	43·1	1221
„ 60—70 „	127	46·4	1315	149	42·6	1207
„ 70—80 „	104	45·5	1289	148	41·2	1167
„ 80—90 „	24	45·3	1284	77	39·7	1125
Totals.....	998	...	...	1032	...	...

TABLE X.—*Brains of 257 Men and 213 Women, observed at the Wilts County Asylum, arranged in 4 groups according to weight (viz., as regards Extreme, Medium, and Small size), compared with 511 Brains of Men and 351 of Women, from the Table of Wagner, similarly arranged.*

BRAINS OF MEN.	Numbers Weighed.		Ratio : 100.		BRAINS OF WOMEN.	Numbers Weighed.		Ratio : 100.	
	Wills Co. Asylum.	Wagner.	Wills Co. Asylum.	Wagner.		Wills Co. Asylum.	Wagner.	Wills Co. Asylum.	Wagner.
DECIDED MEGALOCEPHALY : Brains of exceptionally great size, weighing 55 oz. av. or 1560 grmm. and upwards	10	53	3.9	10.4	DECIDED MEGALOCEPHALY : Brains of exceptionally great size, weighing 50 oz. or 1417 grmm. and upwards	7	20	3.3	5.7
INCIPIENT MEGALOCEPHALY : Brains of great size, weighing from 52½ oz. or 1490 grmm., to 55 oz. or 1560 grmm.	15	56	5.8	11.0	INCIPIENT MEGALOCEPHALY : Brains of great size, weighing from 47½ oz. or 1345 grmm., to 50 oz. or 1417 grmm.	7	34	3.3	9.7
BRAINS OF MEDIUM SIZE, weighing from 40 oz. or 1130 grmm., to 52½ oz. or 1490 grmm.	205	382	79.8	74.7	BRAINS OF MEDIUM SIZE, weighing from 35 oz. or 990 grmm., to 47½ oz. or 1345 grmm.	180	289	84.5	82.3
INCIPIENT MICROCEPHALY : Brains of small size, weighing from 37½ oz. or 1062 grmm., to 40 oz. or 1130 grmm.	17	15	6.6	2.9	INCIPIENT MICROCEPHALY : Brains of small size, weighing from 32½ oz. or 920 grmm., to 35 oz. or 990 grmm.	14	5	6.6	1.4
DECIDED MICROCEPHALY : Brains of exceptionally small size, weighing not more than 37½ oz. or 1062 grmm.	10	5	3.9	1.0	DECIDED MICROCEPHALY : Brains of exceptionally small size, weighing not more than 32½ oz. or 920 grmm.	5	3	2.3	0.9
Totals.....	257	511	100.0	100.0	Totals.....	213	351	100.0	100.0

Sisterhoods in Asylums.

"Nothing in connection with the treatment of the insane has a more direct and immediate effect, for good or ill, upon their condition and comfort, than the fact of their being under the charge of good or bad attendants."—Fifteenth Report of Commissioners in Lunacy, p. 55.

"Il est là un médicament dont l'action est supérieure à tous les médicaments connus."—Guislain, 'Legons Orales sur les Phrénopathies,' t. iii, p. 485.

It is not our purpose to frame an indictment against the attendants upon the insane. We shall not even quote the frightful narratives contained in recent reports of the Commissioners of Lunacy as a text to these observations, for neither do we regard the cruelty and neglect which these commemorate as characteristics of the body to which they refer; nor are we insensible to the merits of many of its members, or to the difficulties and dangers to which they are exposed. But we, at the same time, believe that could the physicians and medical superintendents in this country be asked—What is the chief impediment to the successful management of the institutions committed to your charge—what is your grand and ceaseless source of anxiety and alarm—what obstructs, mars, subverts therapeutical and moral treatment and the plainest dictates of humanity? they would, unanimously, answer that these obstacles consisted in the inefficiency of their instruments, the want of self-control, common-sense, and co-operation in their subordinates. They would, doubtless, speak of some noble exceptions to this sweeping censure; they could point to individuals who loved their charges as children, whose judgment and fidelity and unselfishness were unimpeachable, beyond praise or price. But they would add that these had been selected from hundreds, who had, in the course of years, run a moral gauntlet, the vast majority of whom had been tried and had been found deplorably wanting; and that these had been moulded, trained, made by surrounding circumstances and influences. They would describe the mass as coarse, harsh, passionate, indifferent, untrustworthy, intemperate; as having no higher conception of their office than as that of gaoler, no clearer estimate of their duty than what obtained in the days of Esquirol—"at all hazards and by all means to keep the lunatics quiet"—and as having no better or kinder or more humane bond with them than that of watching and warding and ruling them. They would confess that they commenced their professional career with fervent confidence that their staff would participate in the execution of their plans, if not with their own ardour and enthusiasm—would be educable into intelligent and sympathising companions and guides; and that experience had taught them to be content with such qualities as forbearance, sobriety, and mechanical obedience to rule. We are familiar with

the proceedings of a medical superintendent, now gray in the service, who, horrified by the brutal and illiterate instruments through whom he was expected to act, curatively, upon the moral nature of his patients, recruited his staff with self-taught individuals, readers, members of mechanics' institutions. Philosophers proved to be as harsh and slovenly, and more dogmatic and opinionated than clodhoppers. He next tried pensioned soldiers, whose acquaintance with discipline, order, and personal neatness, offered promising elements; but subordination to superiors does not extinguish a tyrannical spirit, and a smart exterior may conceal an insatiable thirst for stimulants. He next sought assistants among teetotallers; but the self-imposed virtue of abstinence, excellent in itself, afforded no guarantee against the other evil tendencies to which uncultivated minds are heir to. He lastly required a communion or membership with the church to which the applicant professed to belong, as affording a certain amount of security; but even clergymen warned him that such a test would prove fallacious and unsatisfactory.

Many of these failures take place, it must be remembered, in individuals who have been drawn, there is reason to believe, from that large body who covet the luxuries of life without its labours, or what is luxury to them, good food and raiment and an easy loitering employment, in which the unscrupulous may make long intervals of rest or vacation alternate with brief periods of activity or worry; who economise physical exertion and rarely attempt to acquire that moral influence which is won by kindness and judgment. They are the lazy-bodies, the rejected, the outcasts of other trades. Men with saleable qualities, experts in their own business, of a delicate or refined appreciation, are repelled from such an occupation by the low rate of remuneration and the painful and disgusting nature of much of what they are called upon to perform. It should not be concealed that the office of attendant upon the insane, when conscientiously carried out, imposes not only a grave and harassing responsibility, but many sacrifices, some danger, and duties in themselves offensive or even revolting, and which might be regarded as degrading were they not sanctified by being duties necessary to the health and happiness and reason of our fellow-beings. It is likewise clear that an urgent motive is required to induce suitable candidates to enter upon such an engagement; and we know of none save the feeling of preference which enters certain minds and is accepted, and is sometimes rightly accepted, as a special call; and a sense of religious duty, which are sufficiently powerful and enduring to sustain the guardian and to secure justice to the ward. There is no ground for surprise that those who enter upon such a service in the same spirit and with the same object with which they would become tailors or troopers, who resort to it because they have nothing else to do, or because they are not strong enough, or active enough, or inclined

to do anything else—who come from the stable yard, or a washing tub, or a marching regiment—should bring with them the habits and peculiarities of their original calling, and should signally fail equally as a domestic and as a ruler. It is true that much of success in such cases depends upon individual character, and that a warm heart, a well-balanced reason, and a well-ordered life, are materials which may constitute a nature-made but heaven-sent attendant; or out of which such an officer may be formed by the very call upon his sympathies and by the work which he is required to do. But, like genius, so rare is this gift or combination of gifts, that it would be rash and must inevitably lead to disappointment to trust to such a course of training for a sufficient and suitable supply of hospitallers; and there arises the necessity for seeking for assistance in other and, we fear, lower social substrata.

The remedy for these difficulties suggested by the Commissioners is to raise the salaries, and thus, by giving a better status, to induce individuals belonging to a better class and of a better nurture to engage in the department. They say—

“The major part of the complaints which proceed from patients have reference to the conduct of attendants. That these are not always founded on fact we are well disposed to believe. But they are sometimes literally true, and they have, in most instances, some origin in grossness of behaviour or in undue exercise of authority on the attendant's part. It is therefore that we have thought it our duty to make numerous inquiries and repeated investigations into this subject, and to recommend that no care or expense should be spared to ensure good and competent servants for the patients in every establishment. Having made ourselves acquainted with the rates of remuneration usually paid to them, we have very frequently suggested a considerable increase of wages, and that such wages should be on a gradually ascending scale, as the best mode of obtaining the services of competent persons and of ensuring the continuance of such as were already secured.”* This is an important consideration. We hold that even the mediocre guardian is underpaid; but it is worthy of inquiry what amount of compensation may be expected to effect the purpose in view. Let it be supposed that the pecuniary payment were doubled, and the rations and privileges largely augmented, and thus raised to an equality with those enjoyed by a clerk or skilled artisan. We have no reason to conclude that this measure would tempt those in possession of such, or even of lower allowances, to seek employment in an asylum; or, supposing that it did so, that the deserters would possess much higher properties than those whom they supplanted. Such a process might secure better cooks or coachmen, but it is doubtful whether you can buy

* ‘Thirteenth Report,’ 1859, p. 63.

good tempers and tact and discretion ; or, if purchased, whether they might not be soured and spoiled and changed by the trials and strain to which they must be subjected. Practically, it has been ascertained that highly salaried attendants are not more efficient than those who receive the current rate of wages. It is not merely better servants that are desiderated, although such would be invaluable, but it is better regulated minds and dispositions ; and unless these be under the regulation of conscience or a creed, religious impressions or a system, reliance cannot be extended towards them, nor can they be regarded as adequate exponents and agents of the scientific and wise and well-founded beneficence which the medical profession has at its disposal. In fact, the moral treatment of the insane must remain a mockery and a deception and a failure until art has its artisans, and until the Utopia of Pinel and Conolly has been realised. Let us picture, for a moment, the absurdity of presenting a calming and composing draught to a restless excited creature, who has been intimidated, baited, bullied, all day ; or of admonishing for irritability of temper where the provocations came from the patient's guardian and adviser ; or of encouraging confidence and hope and industry in one dreading the shower-bath, or seclusion, or insult, or who has been told and treated as an "incurable, useless, drivelling idiot !"

In certain Continental countries the whole management and administration of hospitals are confided to religious bodies. A medical man is called in, as may seem necessary, but he forms no part of the resident staff ; he is supernumerary, and too often regarded as superfluous. Against such an incongruous arrangement the arguments and remonstrances of psychologists, even of those most profoundly convinced of the aid derived from religious sodalities, have been energetically and legitimately and successfully directed ; yet in such establishments order and moral government prevailed. It is now twenty years since we visited the asylum at Mareville, subsequently the scene of the labours of Archambaud, Morel, and Renaudin, but then under the superintendence, and we fear we must add the mismanagement, of about twenty sisters, as the community was merely visited by a medical officer who resided in Nancy. But the religious element, or the power which personal piety or official sacredness confer, shone forth in various ways through the ignorance and superstition around. One illustration of this lingers most lovingly in memory. In passing, with the sister who acted as guide, through a remote ward, cries and the sound of strife reached us. We quickly reached a small paved court surrounded by buildings, in which two male lunatics were engaged in a furious and what might have proved a fatal struggle. The sister advanced fearlessly to part the combatants. In a moment the strife was over. One of the men rushed to the most retired part of the yard and crouched

shame- or awe-stricken, in the corner. The other, perhaps the aggressor, knelt penitently down, kissed the sister's skirt, and at once obeyed her command to follow us.

The present observations are confined to a scheme by which individuals set apart by religious obligations, or by pure and elevated motives for ministration upon the sick and the sorrowful, should take the place, or be associated with, the nurses and guardians now employed; "*le milieu*," to quote the emphatic words of Morel, "*entre la brutalité des infirmiers et les mauvaises tendances des malades*"—should occupy the position and part of intelligent but subordinate agents in carrying out the prescriptions and instructions of the physician, moral as well as therapeutical; in acting as companions and guides and governors, according to a code laid down; and in diffusing around that calm and order, and, it may be added, that Christian love, which are the virtues which they strive to attain, to embody and to inculcate. It is not desirable that their discretion should be passive, their ministration automatic; neither would it be permissible that the promptings of the religious sentiment should be implicitly and actively obeyed. They should neither be priests nor preachers; yet there are a thousand modes in which their principles could be infused into the discharge of common duties, could become the very vehicle and authority by means of which the objects of the physician might be attained, and which he might elect as the most appropriate and trustworthy vehicle. It is not visionary to suppose that the mere example, the tone of mind, the habits of such a class, would exercise a soothing and salutary influence; that the kind and merciful and comforting practical offices extended to sorrow and suffering would have their reward; that the prayerful thought, the clear statement of a truth, the hopeful word, judiciously employed and as the physician directed, might lead, not to penitence nor piety on the part of the patient, for such are not the objects in view—although, should they come, what would there be to regret?—but to the quieting of wild excitement, the inspiring of hope, the enlightenment of reason darkened by despair. It must, however, be distinctly understood that such auxiliaries are not preferred as teachers, even by example, of religious truths, but because the religious truths by which they are elevated, and under which they profess to act, render or should render them trustworthy agents in carrying out a system founded upon justice and humanity.

The department for females is proverbially the best arranged and best regulated part of an asylum, and this is the case even where the servitors are common place and ignorant, and have nothing to guide them save their innate sense of neatness and propriety. Were there associated with these qualities a cultivated intelligence, purity and elevation of sentiment, or even honest sincerity of purpose, rational treatment might legitimately be expected—the faithful ad-

herence to whatever instructions were issued, or that forbearance which we have described as the most humble of the requirements for such an office. But could some higher qualifications be secured—could an interest in the well-being and restoration of the patients be inspired—could the guardian be animated by a sense of responsibility to her God, her church, or to the society to which she belongs—or to act in accordance with a self-imposed standard of excellence or obligation—or were she to act simply under the impulse of devotional feeling—great gain would be effected. No other mode of accomplishing these ends, or some of them, appears to be available except by the employment of sisterhoods, or religious corporations. Experience abroad has shown that associations of females are more efficient and successful than those of men. This superiority has secured the universal preference of the sex in hospitals. Yet it cannot have been their attention to petty details, to neatness, order, cleanliness, not even the cheapness of their labour; it must have been the suggestions of the softer and more sympathising natures of sisterhood, or maternity, which brought about this result. The organization of congregations of widows in connection with Christian charities, in early times, may have emanated from the same source and from a full appreciation of the influence of the maternal feeling. “*Les sœurs*,” says Morel, “*ni sont ni des femmes, ni des hommes, ce sont des sœurs elles sont un principe qui agit favorablement sur le moral des aliénés.*” *

To the employment of sisterhoods we shall confine our inquiry. We write, however, in ignorance as to whether such communities as now exist would willingly accept of such a mission, or whether the direction of their labours into such a channel may be compatible with the objects of their institution and with the views of those who guide their efforts. But we write after long and careful observation of their signal achievements in somewhat similar circumstances, with a firm conviction that they possess, and in a high degree, many of the qualifications and, in an especial manner, the organization which promises to accomplish the desired revolution; and with a knowledge that such a provision has been craved and has been called into existence since true civilisation began. It has been on its trial for nearly two thousand years. It is coeval with Christianity itself. Its duration amounts to a demonstration that there was good in it. In a survey of the various shapes in which the charitable impulse and systematic relief to suffering manifested itself through the aid of women; and of the continued succession of orders and communities set apart to such noble works, we are compelled to conclude that these were in harmony with the wants and wishes of successive generations—that the mass of mankind either saw clearly a remedy, and the best remedy for many evils in such agencies—or saw so much of good in them that they were conserved and reproduced,

* Guislain, p. 496.

not merely under every form of government and throughout all changes of manners and customs, but even under circumstances most adverse, even hostile, to such institutions. A large amount of learning, accumulated at second- or hundred-hand from Ludlow, Howson,* and other sources, might be adduced to show that in every age, before and since the Reformation, the stern and clamant necessity for arrangements by which woman was, in some way or sense, devoted and consecrated as a nurse, has been recognised; and that whether responded to in visitation of the poor, in actual domestic or public ministrations, in instruction of the young, the ignorant, the depraved, or in facing death and disease and all that is repugnant to pure and feminine natures, in order to relieve pain and sorrow, to reclaim from sin and to save souls—the stream of benevolence has flowed on continuously. But while this would prove a vain or supererogatory process, it may be well—epitomising the information afforded by these authors—to recall the facts that widows, succourers, a diaconate, existed in apostolic times; that in the succeeding ages, during the spreading and widening of Christianity, these classes were not merely separated, but ordained and dedicated for performing certain duties, such as almsgiving and helping or succouring the poor, in addition to missionary work. It appears that very early ascetism and seclusion, the hermitic or monastic life, was added to or substituted for these practical services. We read of thousands of recluses and nuns in Egypt, in the fourth century,† of nunneries in which young girls, not yet twenty years of age and luxuriously brought up, had taken up a monastic life, who worked harder than maid servants, receiving the sick to be tended, carrying beds, washing others' feet, and even cooking.‡ These were, perhaps, sporadic and spontaneous exhibitions of religious sentiment, sanctioned, however, by the Church; but at a very early period communities of females, professing such or similar objects, were regularly organized and subjected to a system of rules by their ecclesiastical superiors. The specific purposes of such societies appear, however, to have differed widely, although in no case were worship and charitable work omitted or neglected. In the sixth century there was a convent of 200 nuns at Arles, who were bound, conjointly with religious offices, to learn human letters for two hours a day, and were mostly employed in copying books. They were, in fact, the Emily Faithfuls of the dawn of literature. The monasteries in England appear to have been frequented as finishing boarding schools for the patrician orders. At the same period the chaplain and abbess of a convent at Tours, are discovered relieving the weightier matters of the soup-

* Ludlow, 'Woman's Work in the Church,' 1865. wson, 'Deaconesses, or the Official Help of Women in Parochial Work in Charitable Institutions,' 1862.

† Montalembert, 'The Monks of the West,' p. 323, vol. i.

‡ 'Woman's Work in the Church,' p. 88 (Ludlow, quoting Chrysostom).

kitchen and the pharmacy by originating *vers de société*, corresponding poetically and platonically as to violets, flowers placed on the altar, delicate little feasts, and the stereotyped topics of sentimentalism. A little later, abbesses are described as authoresses, learned in the classics, theologians. But these were the superficial and ornamental parts of this universal institution, the main and recognised spheres of its operation being among the poor, the miserable, and the unenlightened. In the eleventh century the Beguines formed themselves into associations, often amounting to thousands, generally connected with hospitals or asylums for the reception and maintenance, or for the relief, of the aged, the poor, the sick; and who, besides engaging in teaching and manual labour, went out to nurse and console the sick, to attend deathbeds, to wash and lay out the dead, and were called in to pacify family disputes. The succession is carried downwards by Hospitallers, Filles Dieu, Alexians, Gray Sisters, who visited and watched the sick, assisted in times of pestilence and famine, became attendants in infirmaries, leper-houses, or in the infected homes of the diseased and the dying. As we approach recent times, the divisions and ramifications of this mighty stream of charity become greatly multiplied, many-named, and more extended in application. The most conspicuous display, however, of the projects for the relief of physical and other suffering by the help of religious women,—that which not only left the most indelible impress on society and survived the disasters and decadence of the Church of which it was a part or appendage, but which now interpenetrates the charitable institutions of what may be called its native country, and there flourishes vigorously, in the midst of opinions and habits which cannot be regarded as favorable to primitive or mediæval principles of thought or action,—was the noble work of St. Vincent de Paul. To his preaching and prayers and exertions is mainly due the separation of the deranged from the diseased and depraved, the opening of special wards in general hospitals, and the erection of separate asylums for their reception. His greatest creation, although not his only creation—the Sisters of Charity—grew out of human wretchedness and famine and demoralisation, survived the Reign of Terror, and may now be fairly said to offer their services wherever misery presents itself, and wherever the gentleness and sympathy of woman can be brought into operation. They are now established under various designations, but with the same characteristics, in maternities, reformatories, hospitals, and asylums.

It will be observed that as until the time of this great revolutionist the insane, whenever confinement was resorted to, were consigned to monasteries or public hospitals, they must have been indebted to the religious bodies serving or presiding there for whatever merciful care was extended towards them. Evidence has been preserved that,

however useful that care may have proved, it partook largely of an ascetic and penitential character. We have reason to believe that Esquirol was keenly alive to the evils of the system of supervision which obtained in asylums of which he was the physician, and regretted the disappearance of the religious element from the servile body to which the management of his patients was mainly committed. He has not, so far as we know, left any record of the latter opinion; but he has left the following contribution to the history of the abuses which sprang from the rule of the religious bodies when unchecked by a medical or civil board of direction:—"In some provinces the insane were placed in deserted leper-houses and lazarettos. In 1600 a priest was the governor of the asylum in Marseilles, when such disorders took place as to necessitate the municipal authorities to place the establishment under the charge of officers appointed for the purpose. In 1660 the Parliament of Paris ordered that the General Hospital should be provided with a place for the confinement of such lunatics as might thereafter be admitted. Such patients were still received into the general hospitals, from which, whether cured or uncured, they were discharged. In many places they were confined in monastic or other religious houses, and often confounded with the dissolute and depraved; many congregations actually kept boarding-houses for fools, and the Brothers of Charity possessed many. In the north of France the Brothers Bonfils had a sort of monopoly of taking charge of the insane; they provided religious to attend upon the affluent classes in their own residence, and had large establishments at Lille, Armentières, Mareville, near Nancy, St. Venant, in Artois. Lunatics were received into a great number of monasteries throughout France."* It would appear that, so recently as 1844, certain religious communities, les Frères Hospitaliers de St. Augustin, claimed, not merely to superintend and nurse, but to treat the insane, and were actually intrusted with the care of certain establishments. They proposed to cure, and invariably to cure, where the malady was not above eight months' duration, sorcery, magic, divination, animal magnetism, somnambulism, Saint-Simonianism, mental alienation, and epilepsy, &c., by exorcism, faith, prayer, and fasting, and the direct influence of religion, as these conditions depended upon possession or the interference of demons with human affairs. These spiritualists contended, and perhaps still contend, that if physicians have occasionally, though rarely, cured energumens and moral lunatics without religious means, it was because Satan, by the permission of God, voluntarily came out of his victims, or ceased to act openly, in order to deceive his antagonists, the physicians. "There is, then," says M. Bouchet, who recounts these pretensions, "a direct opposition between the treatment of insanity and the principles enunciated by the Society of St.

* Esquirol, '*Des Maladies Mentales*,' t. ii, p. 436.

Augustin ;" adding, "that all superintendents and guardians in hospitals for the insane must be under the authority of the physician."* And in this relation do these parties stand to each other wherever success has attended the arrangement, and wherever we propose it for imitation. Nor is such development new or foreign to Protestantism. In 1560 the Damsels of Charity of Sedan undertook to succour the aged and sick poor in their own homes. Various efforts of the same kind have occurred during the progress of the Reformed Churches, more limited, of course, in extent, and, perhaps, in results, but indicating an appreciation of the same wants and the same remedies as in the Roman Catholic community, and have recently assumed a more imposing and organized form at Kaiserwerth, where, among the many-branched applications of charity, there is a lunatic asylum, and in the sisterhoods of this country. There are now upwards of twenty such bodies, independently of branches, in operation in England. Kaiserwerth can boast of its twenty mother-houses and eighty sisters. These occupy different spheres of usefulness in Switzerland, France, Holland, Sweden ; a few have even penetrated the far east and established themselves at Jerusalem and Smyrna.†

In proposing that from such sources should be drawn attendants we are dealing with no Utopia. We advocate the adoption and use of materials prepared and, to a certain extent, framed to our hand. These materials, it must be further observed, are not open to the censure and objections which have been launched, correctly or not, against the members of similar institutions. They are not the subjects of an irresponsible power, which can check or overrule medical authority ; they are not enslaved to so rigid a course of penitential or prayerful devotion as to suspend active duty. With them to labour is to pray ; they are under guidance and government from which they may escape in an hour, and by an act of their own will ; works of charity and mercy and instruction are with them the main object of their life and mission, their profession and habit being assumed for the very purpose of performing this mission safely, sedately, and effectively.

Apart from the influence of a pure and devotional deportment, or of a professed devotee, and supposing that such an instrument cannot be obtained, it appears that education would secure valuable benefits. We do not advert to the respect inspired, nor to the dependence and confidence extended to trained mental powers, but to the capacity which such powers impart to discriminate character and disposition, and especially lower, feebler, and less artificial characters ; to understand and carry out the system of which they are the handmaids,

* 'Ann. Médico-Psych.,' t. iii, p. 53 et seq.

† "Sisterhoods in English Church," by Dr. Neale, 'Church Review,' January 6 and 20, 1866.

and to devise and bring into operation means of occupation, recreation, and consolation. They can, besides, better estimate the value of conciliation, and the mode by which it is to be effected.

There will be two classes of objectors to any such innovation. There will be, first, the physician, apprehensive that his power may be invaded or usurped, his place positively taken, by the well-disciplined guardian. Confessedly, the opponents of such an aid in the administration of asylums denounce or dread a divided or diffused responsibility, or, in plainer terms, interference with that authority which is claimed, and rightly claimed, for the medical officer in all that concerns his patient. Wherever such usurpation takes place it originates more in the incapacity of the dethroned physician than in the ambition or conceit or insubordination of the rebels. It might come to be a question, if humane and rational management were certainly and permanently secured, whether in the present state of therapeutics, as applied in the treatment of mental disease, such a usurpation might not be hailed as a boon; but believing that the medical art involves the moral art, we deprecate all such interference with the duties of the superintendent. It is not, however, clear why such interference is more likely to proceed from an association of educated, religiously minded persons, or of persons professing to act upon philanthropical principles, than from those who cannot be regarded, even when viewed in the most favorable light, as other than hired servants, enjoying great privileges and intrusted with extensive power. There is, besides, a defiance of authority which is infinitely worse than either conscientious opposition to the system or regulations laid down or the pragmatical adoption of views differing from those of the supreme authority, or an attempt to supplement the lagging zeal or abortive exertions of those around. It is where rules and regulations are neglected, frustrated, or set at nought—where the plan prescribed is counteracted by indifference, disobedience, and disrespect—where, in place of treatment, there is tyranny; it is, in fact, where that anarchy exists which we desire to prevent or to restore to order.

There will, secondly, be the more formidable alarmist representing the current suspicions and shibboleths of society, who will proclaim the dangers of fanaticism, proselytism, or, more mildly, of sectarianism. It does not seem necessary to reanimate, in order to slay, the almost forgotten bugbear that religious impressions might depress or agitate the insane. There is the more specious and subtle insinuation that these simple and sincere women may pervert the orthodox views of those committed to their charge. Should the lunatic be converted to formalism, or to some abstract dogma, and thereby, or at the same time, regain sanity and serenity of mind, the result is scarcely calculated to inspire regret or dissatisfaction; and should a mode of prayer, or a mode of belief, be engrafted upon chronic and

incurable lunacy, the evil is not obvious. One who was the very antipodes of fanaticism, Dr. Arnold, has written, "The doctrine of the Communion of Saints practically taught, *religious orders, especially of women* of different kinds, and under different rules, delivered only from the snare and sin of perpetual vows—all these, most of which are of some efficacy for good, even in a corrupt church, belong no less to the true church, and would there be purely beneficial."

There may, notwithstanding, be such or other dangers; but it is our conviction that they may be guarded against or neutralised, and that even if a bulwark or breakwater could not be erected at every point, the advantages to humanity are so incalculable that the risk should be run. We are not here called upon to deal either with the mode in which protection against such evils should be secured nor with the mode in which the experiment should be made. We accept the practicability, and, under certain circumstances, the triumphant success, of the change as incontrovertible facts; and we are not called upon to decide whether the educated and religious guardian whom we seek shall be provided by a church, a corporation, or sisterhood, or come as a volunteer; whether she offer her services as a Sister of Charity, an Anglican Sister, a Protestant Deaconess, or, in the words of Dr. Howson, as "women devoting themselves to the nursing of the sick, to the systematic care of the young, to the rescue of the degraded, and to the details of parochial work, as the business of their lives, without ensnaring vows, without any breach of domestic ties, and without even the affectation of what is foreign to the English people and to the English Church."

It would be vain to expect that the animating principle, whether that has been religious convictions, philanthropy, or a sense of duty, should have so interpenetrated and subdued, or transmuted the natural character as to render every volunteer judicious and sympathising. That principle may not have lived at all, or it must have been modified by character and position. The impulse may have deserved no higher rank than an escape from self or a devotion to self. Even in the best specimen of a genuine nun the heart may be said to be a moral palimpsest, twice written upon, the earlier characters appearing, though less distinctly, than those recently and deeply impressed upon the old rubbed and roughened surface. We can detect the faults of early training through the very words of the Gospel. There will be selfish tyrants as well as self-denying martyrs, indolent and obstructive as well as zealous co-operators, callous and indifferent by the side of kind and humane companions. Even when duty is done with a sacred and stringent faithfulness it will and must sometimes partake of the precision and perhaps of the austerity and ungenialness of a formal and artificial nature, which has been created and regulated by an unbending system, and moved by principle rather than by impulse of feeling. Even pity may be

frozen by routine, and the gentle yoke of guidance may become a burden and a bore if imposed by rude or unskilful hands. We have read of the austereness of even English sisterhoods, and of that stern and cold rule which might be calculated to dim, if it do not extinguish, the kindest feelings of our nature, and precisely at the moments when the exercise of such feelings is most natural and irresistible and Christian; but amid a very marked and sometimes offensive bitterness of tone, the very works which contain these criticisms bear a most important testimony to the good works which such instruments have accomplished, in the Crimea, for example, and to the still greater achievements in winning back the erring and fallen, in teaching the ignorant, and in caring for the sick and infirm, when placed under proper governance.* But all such defects as formalism are modified, although they may not be eradicated, by conscientiousness, whether original or acquired. And, moreover, such defects assume the rank of excellencies when compared with the noxious and repulsive qualities, the coarse manners and sordid motives, of attendants. The mere fact that such guardians have been trained that they act in conformity to certain principles and views which constitute them what they are, afford, to a certain degree, a guarantee against irregularities in discipline or temper, self-will, self-conceit, and, what is still more formidable, tendency to self-indulgence. The snares of the hireling attendant are crass ignorance, the arrogance of power, the craving for ease, sensual gratification, and gain. They are left to their own resources in acquiring a rude notion of what insanity is; they naturally, and according to the only experience which they can possess, attribute the waywardness, disorder, and degradation which they encounter to perversity or possession or wickedness; they resort to what was the earliest, and may be the latest, method of combating and correcting such qualities; they secure subjection and quiet by sheer force and intimidation, and they show that they are proud of their victory. Or, they recognise no other than a sordid tie with their charges; calculate how much may be made of them, and at how little outlay of supervision or labour; enlist them or compel them to do their work; and consummate a terrorism or slavery which is more calculated to lead to fatuity and imbecility than to health or happiness. It is worthy of note that the educated religious cannot fall into such errors of judgment and heart. It is not that these are inconsistent with their vow or profession, that they are repugnant to their knowledge and experience; but they are incompatible with their interests, with the object of their mission and life; and although they may, in their own fashion, be greedy of reputation, and not free from the petty ambition of showing that they rule, they are shut out from avarice, aggrandisement,

* 1. 'Experiences of an English Sister of Mercy.' 2. 'Sisterhoods in the Church of England.' By Margaret Goodman.

and indolence. They may be egregiously wrong in their premises; but conclusions which involve self-denial, hardwork, and vigilance, may assuredly be utilised in the management of the insane.

We shall not go so far as to propose that these women should be admitted to the diaconate, should be consecrated for their office. Let the office impart sanctity to the individual; but the corporate tie and feeling, the theory and system of sisterhood, would at once increase authority and responsibility. They are not only one of many, a part of a great whole, but they are accountable for every thought and act to the medical as well as to their religious superior, to every member of their body, to their own vow in God. But besides this they are set apart, or have set themselves apart, for good work; they are attendants formed according to a Christian standard, and during attendance in public hospitals and in private families; they can understand the object of the provisions and prescriptions of medical art; they have sufficient intelligence to carry them into effect; they neither drink nor swear nor strike nor garrote, and, although they may be actuated by like passions with ourselves and with the warders whom it is proposed they should displace, they can discriminate where sympathy should be given and where it should be denied; they are, in many senses, nursing-mothers. It might be beneficial could such a noviciate or preparation as wifehood and maternity have been passed through in every case; but as this would greatly limit and lessen the corps available, we must accept as a substitute what is in reality an approximation to marriage and motherhood, the separation from other and ordinary ties, and the adoption in love of those who are benefited, reared up, cared, and prayed for. It is natural to expect, and it is opportune, that at a time when the efficacy of the home and family life in the cure or amelioration of certain forms of alienation is recognised, that the aid of women, acting under religious or compassionate and, above all, motherly motives, should be invoked. That such an artificial maternity may have contributed to the success of the thousand communities that have sprung up, succoured and humanised their fellow-beings in the Western Church, is highly probable. But it was scarcely fictitious under such circumstances, as professed nuns were wedded to the Church, spouses of Christ, and bore the endearing names of mother and sister. If Christianity gave to woman her status and rightful influence, she has imparted to its ministrations the gentler graces of motherly tenderness and unselfish kindness and humanity. It is not asked that these servitors should be vowed or veiled, but it does not appear that their service should be rejected because they are either or both; nor can we readily understand why faithfulness and humanity, the virtues which we seek for, should be impaired by being made obligatory by a promise, or being habited in a few yards of black crape. We have seen the ordinary staple attendants of an asylum

flaunting in all the glories of green ribbons, and a semi-regimental uniform of blue coats and bright buttons, but did not learn that their efficiency was either enhanced or diminished by their smart costumes.*

It has been alleged that religious nurses are themselves liable to become insane. The accusation was directed against cloistered nuns, and against the discipline or tyranny to which it is supposed they are subjected. To whatever amount insanity may prevail in seclusion, we should be disposed to expect that the work and activity and sense of usefulness which hospital sisters court, and which it is proposed should be the characteristics of a similar institution, would act as a barrier and preservative against vapours and nerves and hysteria, and the long catalogue of ills to which luxury, idleness, and inanity inevitably lead, and which find vent and expression in the cry for work, visitations, and religious ministrations. The whole subject, calumny as it has been styled, is dealt with, and we think disposed of, by Roman catholic writers in the 'Dublin Review.'† Similar traditions are extant as to the frequency of derangement among the ordinary class of attendants. The disease has, in their case, been ingeniously attributed to the painful nature and to the monotony of their employment! But the explanation may be sound, although the tradition be apocryphal or an exaggeration. That there are sensitive and excitable temperaments upon which the duties of an asylum would fall heavily and injuriously may be true, just as duties of any kind would fall; but in such cases as we have examined the opprobrium has originated in mental depression following upon defects of character, or excesses and intemperate habits. Deaconesses are actually employed in asylums in Berlin, Dresden, Frankfort, and Worms. Belgium affords the best and largest experience upon this subject. There, the services of religious corporations are not a mere useless or ornamental relic of mediæval times, but they are in active operation in private families, in the civil and military hospitals, and in almost all asylums, and with the sanction and approbation of the physicians of the community. Speaking of one of these establishments, Dr. Webster ‡ reports:—"Throughout, the wards looked very clean, the inmates tranquil, well clothed, and apparently contented. In one apartment I saw about 120 patients at work, many being engaged in lace-making, which seemed to me of much better quality, if not finer, than that made by ordinary sane persons. Subsequently, a large party were noticed at dinner, who then conducted themselves quietly, the same as ordinary persons, and really behaved very like rational creatures. In another apartment upwards of a dozen young females—all idiots or imbeciles—were assembled at their singing-lesson, under the tuition of a zealous

* Lecture by Rev. J. M. Neale, Liverpool, Oct., 1865.

† Vol. xxxiii, pp. 467—526, 1852.

‡ 'Notes on Belgian Lunatic Asylums,' by John Webster, M.D., &c., 1857.

'sister.' These poor girls sang delightfully, accompanied by their teacher upon the piano, which made quite a musical treat; and as several juvenile performers were blind or dumb, while their execution hence seemed more surprising, this unexpected performance by intellectually bedimmed and unfortunate fellow-creatures caused us greater gratification. Many inmates seemed helpless from physical infirmities, but, considering their previous position in the external world, they now lived comparatively more comfortable. Besides the 'Sœur Supérieure' there are also thirty-one Sisters of Charity, of whom one is secretary, another music-mistress, while others are teachers of various departments and chief superintendents, as also in other capacities throughout different wards. To these, ten lay-female servants, with seven assistants, must be added, thus making, altogether, forty-eight actual attendants for 269 patients or one to every six lunatic inmates."

Another witness says, of the same house, "In another room some were making clothes for their own wear, while parties were amusing themselves with cards or dominoes. Of the upper class, many remain in their own apartments, either from choice or because they are not fit to leave them; but about half-a-dozen were seated in an arbour, formed in their own private garden, which is tastefully laid out. There is a common dining-room for these patients, where all who are not confined to their apartments meet for meals, unless, as in some cases, they prefer solitude. There is a separate kitchen for this portion of the house, of which the sisters have the charge, as well as of the others, but are assisted by servants. A nun sits up every night, going the round of the wards, and only calling up the nursery sisters if necessary. One curious fact she told me was that of their having noticed the rule of silence observed by the community, and of their having, in consequence, volunteered, though not apparently in a spirit of penance, to keep a three hours' silence daily, and, what was more surprising, they had religiously observed it."*

The physician, Guislain, who daily saw and superintended these very developments, anticipatory and positively still in advance of our movement in this country, comments upon his machinery†—"But their object is a heavenly recompense; gain attracts the ordinary servant. Our religious are honest, sober, lead a laborious life; they exhort the patient to virtue. If the laics appear more apt in penetrating motives, they often give themselves up to immorality, which is apparent in their conversation and which dictates their conduct; while we find among the members of our confraternities the principles of morality, a good education, even solid knowledge, qualities which we conceive are of great importance in treatment; even their

* 'Flemish Interiors,' by the writer of 'A Glance behind the Grilles' (quoted in 'Asylum Journal,' vol. iii).

† 'Traité sur les Phrénopathies,' &c., par J. Guislain, &c., Médecin en Chef des Etablissements des Aliénés à Gaud, p. 479.

dress imparts to them a certain degree of dignity." But even under these circumstances, regular contracts are entered into between the governors of the institution and the heads of the religious bodies, stipulating as to the numbers required, the nature of their duties, their maintenance or remuneration, their relation to the officers and ordinary guardians, if such there be, so that when indolent or ineffective they may be removed by the physician; and there is no reason why similar or even more stringent compacts might not be formed wherever such an arrangement was attempted.

In France, although it be argued that the introduction of monks is incompatible with the present organization of asylums, and would prove subversive of the usefulness and rights of the medical director, a high, we might say extravagant, estimate has been formed of the co-operation of hospital sisters. Renaudin, the most eminent and judicious of the many advocates of the system, is of opinion that the religious should constitute the companions and guides rather than the servants of the insane; that they should superintend, but not perform, menial offices, and be responsible for the domestics, upon whose character and disposition it has been shown their example and teaching produce a most beneficial influence.* The same author argues that, although the religious are invaluable agents in carrying out in reality what is merely attempted or dreamed of elsewhere in the department of moral treatment, they increase the expense of the establishment. They do not, it is true, receive salaries, but they are lodged and boarded in the house, and receive an indemnity amounting to 150 or 250 francs for clothing; and it does not appear that their presence materially diminishes the number of secular guardians. We do not, however, discover why this double staff should be required in asylums when it is dispensed with in general hospitals, where the duties imposed upon the sisters must be as servile, and more distressing and disgusting. Dagonet, a medical superintendent as well as a writer on psychology,† while admitting that he has found as valuable assistance from laics, regards the intervention of female religious as presenting "les avantages incontestable quand l'organisation est serieusement constitué," when they act according to a code of regulations, and when they have no other object than that of giving the example of those virtues of which their habit is an emblem. He would be guided in his preference by the locality, by the traditions and dispositions of the population among whom they were to labour, and would confine their sphere of action to the maintenance or order and discipline, personal care of the sick, the direction of occupation, and to continuous and intelligent supervision in the female department.

* "Administration des Asiles d'Aliénés," *Ann. Méd.-Psych.*, t. v, pp. 14 and 225, 1845.

† 'Traité élémentaire et Pratique des Maladies Mentales,' 1862.

Morel speaks still more strongly. He regards them as excellent when they come to the aid of science, with that benevolence, devotedness, and humility, which can only be found in individuals actuated by religious principles.

Of the medical men in this country few have directly expressed any opinion upon this subject, although many have borne testimony to the present unsatisfactory state of supervision in public hospitals of all kinds, and extended admiration towards such an arrangement as is here advocated. But we find Dr. Gooch very explicitly advocating such an experiment. "Let all real Christians join and found an order of women like the Sisters of Charity in Catholic countries; let them be selected for good plain sense, kindness of disposition, indefatigable industry and deep piety; let them receive, not a technical, but a practical medical education."*

Recent and very valuable evidence on the point is afforded by Dr. Howden, in his notes on Italian asylums for the insane, where he speaks of the beneficial working of a band of male religious, and in a country which we are apt to regard as lagging behind in the national competitive movement. "The male asylum," he says, "was a most pleasing contrast to the female one. It occupies the whole of the island of San Servulo, Venice, and is conducted by a body of monks. The monkish doctor, in his long gown, seemed delighted to show me everything of interest. Everything appeared perfectly clean and orderly. The number of patients at the time of my visit was 436, rather more than the establishment could well accommodate; that, however, they seemed to be doing their best to remedy, several new rooms being in process of building. The baths bore no evidence of being constructed with an eye to fastening in the patient, as is too often to be found in foreign asylums. I saw nothing in the shape of restraint, and the doctor said that it was but rarely had recourse to. One of the few things that conveyed anything like an unpleasant sensation to one's mind was in the presence of several iron gates between different parts of the house. The gardens and airing-ground are very cheerful and pleasant, with a delightful look-out over the sea and surrounding islands. On one of the neighbouring islands the government is at present constructing a very large asylum, which, however, I was told would not be completed for several years. There are workshops on the premises for wrights, blacksmiths, and tailors; and out of the 436 patients there are 120 constantly working, a fact which, I think, shows more than anything else how much the brotherhood have the good of their patients at heart. Nor is the necessity for amusement overlooked. There is a good instrumental band formed of patients, and in the church attached to the establishment the organ is played by a patient, and there is also a choir formed of patients.

* Letters in 'Medical Gazette,' 1825.

The doctor showed me, with considerable pride, a copy of a notice of the asylum, by Dr. Robertson, extracted from the 'Journal of Mental Science.' I left the asylum, delighted with what I had seen, and much pleased by the courtesy extended to me." "Sisters of charity attend upon the Female Patients' Asylum, Rome, and to their care and attention, I believe, is greatly due the cleanly condition of the inmates, many of whom seemed busily engaged in sewing and making clothes of all kinds under the kindly superintendence of those sisters."*

There is a cry for woman's emancipation and her rights. Here is offered her hereditary right—to care for the wounded, the stricken, the fallen. Mrs. Jameson says, in her 'Communion of Labour,' "There are thousands and thousands of women who have no protection, no guide, no help, no home,—who are absolutely driven, by circumstances and necessity, if not by impulse and inclination, to carry into the larger community the sympathies, the domestic instincts, the active administrative capabilities, with which God has endowed them; but these instincts, sympathies, capabilities, require first to be properly developed, then properly trained, and then diverted into large and useful channels, according to the individual tendencies." There is a demand for work for women." Here is a labour, a mission open to and worthy of the humblest capacity and loftiest aspiration; duties so sad and servile as to deserve the name of penance, if it please the labourer so to regard them; and others so refined and elevated, in nature and range, as to exercise the wisdom of the serpent as well as the gentleness of the dove. For such as have no home, or no suitable home, here is a retreat; for such as crave a wider field for exercising sympathy than what their natural vocation affords, are offered a life of cares and anxieties, duties and rewards; for such as desire to emancipate themselves from the conventionalities of society, from the luxurious or frivolous or do-nothing habits of their class or training, or who court work for its own sake, for the mental health and complacency which it brings, or even for the retirement, the protection from the world, the pride of life, &c., and for the independence which is its price,—an asylum provides real, substantial, Christian exertion, so varied and yet so constantly appealing to the better part of human nature, and exacting so much of thoughtfulness, reticence, and self-possession, as to realise, in great measure, what religious associations profess to have as special objects and to desire to undertake. Nor is the task proposed a mere play at work, a spectacle, a contemplative, white-glove, namby-pamby supervision—not even worsted work relieved by religious ceremonies. It demands menial and manual Christianity, long-continued watching, the exercise of every resource which education or ingenuity has imparted. It

* 'Edinburgh Medical Journal,' Dec., 1865.

exposes to ingratitude, contumely, treachery, danger; and all this without the praise due to heroism, or even the publicity which often inspires and sustains where principle might fail.

Clinical Notes regarding Epileptic Insanity. By ADAM ADDISON, L.R.C.P. Ed., Assistant Medical Officer, Royal Lunatic Asylum, Montrose.

THE following observations are based upon fifty cases, and compiled from notes taken by Dr. Howden and myself. They are published merely as a contribution to the statistics of the subject, which are by no means numerous. Of the cases admitted into the Montrose Asylum during the last eight years, 3·8 per cent. were epileptics. Their physiognomical characteristics are given in the following table :

In 39 males, 11 females—

	M.	F.	Total.
The face was pallid in	24	6	30
Lips thick in	20	7	27
Eyelids puffy in	32	9	41
Pupils large in	20	5	25
„ of medium size in	19	6	25
„ unequal in	0	2	2

It was observed that the pupils were very variable, as regards size, apparently owing to the frequent vertiginous attacks to which such patients are subjects.

The bodily condition, as regards nutrition, was generally good, and in many cases the tendency was to plethora.

The nutrition was—

	M.	F.	Total.
Plethoric in	16	5	21
Normal in	11	5	16
Defective in	12	1	13

The usual disturbances of motility during the interparoxysmal period were observed in the majority of cases, namely, tremor, tonic and clonic spasm, with imperfect muscular co-ordination, and sometimes paralysis, and, as the result of these, imperfect articulation, tremor of the muscles of the face and hands, want of precision in grasp, and the characteristic straddle in the gait. Those of the patients whose intelligence could be relied on reported that tonic spasm generally occurred in the muscles of the legs and arms, often after they got into bed, and before they became warm. Clonic spasm was observed in the muscles of the legs, arms, and face, and in five

cases it occurred in the form of trachelismus, the symptoms being a sudden sense of choking and abortive attempts to speak. It was also noticed that clonic spasm was most marked during sleep, in which some patients were seen to jump and start so violently as to be thrown out of bed while perfectly conscious. Many likewise state that they suffer much from nightmare and terrifying dreams.

In 24 males and 8 females—

	M.	F.	Total.
Tremor was observed in	5	1	6
Clonic spasm in	4	1	5
Tonic	4	1	5
Tremor and clonic spasm combined in	1	1	2
" tonic	2	0	2
Tonic and clonic	2	0	2
Tremor, tonic, and clonic spasm in .	2	3	5
Uncertain	4	1	5
	<hr/> 24	<hr/> 8	<hr/> 32

The following are the results as regards paralysis :

In 31 males, 10 females—

	M.	F.	Total.
There were paralytic in right side .	9	2	11
" " left side .	7	2	9
" on both sides	1	0	1
Not paralysed	14	6	20
	<hr/> 31	<hr/> 10	<hr/> 41

These observations differ materially from the experience of Dr. Russell Reynolds, who regards paralysis as one of the rarest conditions of epilepsy. Probably the contradiction may be accounted for by the different character of the cases which fall under the attention of the hospital physician and the medical officer of an asylum. The former generally sees only the recent and hopeful cases, while the practice of the latter lies amongst the most helpless and hopeless, whose nervous systems have been shattered by paroxysms of many years' duration. In this class of cases nothing is more common than to see a patient leaning all to one side in his walk ; and on examination it will be found that on this side muscular co-ordination is more imperfect than on the other—that his grasp is less strong and exact—that he flings about his leg more uncertainly, and uses it with a slight drag ; it is also on this side that the larger pupil is noticed when there exists any inequality. This paralysis has also been observed to occur most frequently on the side in which the convulsions predominate during the fit ; but from the difficulty of obtaining

accurate information on this point in many of the cases, I hesitate to connect the facts in a tabular form. These symptoms become still more interesting when placed beside the observations of Dr. Baume ('Annales Médico-Psychologiques,' tome viii), who points out that there is almost invariably a difference in the weight of the two cerebral hemispheres observed in autopsies of epileptics, and that the convulsions predominate on the side opposite the atrophied hemisphere.

In one series of 50 cases the lowest difference was 15 grammes, and the highest 290, the mean being 50; in another of 20 cases the lowest was 4 grammes, and the highest 159, the mean 40; in the first series one case only presented no difference in the weight of the hemispheres, in the second they were equal in four only. In the post-mortem examinations of epileptics which have been made in this asylum the difference has been noted three times, but it must be admitted that until recently it has not been looked for. Observations made upon the temperature and the pulse coincide generally with those of Dr. Reynolds. In 13 men the internal heat of the body was ascertained by introducing the bulb of a thermometer (Aitkens) into the rectum. The highest temperature obtained was 100·2, the lowest 97·2, the mean being 98·9. It was found that the temperature was highest in those who had suffered from fits during the same day; the lowest was observed in the case of an idiot.

The following table represents the character of the pulse:

Sex and number of cases.	Age.			Frequency of Pulse.		
	Min.	Max.	Mean.	Min.	Max.	Mean.
Males 24	16	69	33·41	58	104	77·87
Females 8	20	42	29·5	72	100	89·5
Quality of Pulse.				M.	F.	Total.
Normal fullness and firmness				18	5	23
Feeble				6	3	9
				24	8	32

All epileptics from whom reliable information could be obtained were found to suffer more or less from vertigo during the interparoxysmal period, and several were subject to attacks of the petit mal. In demented patients such physical and mental phenomena as sudden changes in the frequency and quality of the pulse, the size of the pupils, the various spasmodic disturbances of the throat, sudden fits of loquacity, excitement, or depression, are explained by the occurrence of vertiginous seizures. These are the chief symptoms of the interparoxysmal period.

The approach of the fits was indicated in twenty-seven out of fifty cases by physical and mental prodromata.

I have adopted Dr. Reynolds's classification, and divided them into four groups, mental and emotional, sensational, motorial, and extrinsic; but as I found that in the majority of cases symptoms of the different groups were conjoined, it appeared to me the more correct plan to state the frequency of such phenomena, rather than to register individual cases by making choice of a single prodroma.

<i>Special Phenomena.</i>		
I. Mental and emotional.	Depression	8
	Exaltation	5
	Irritability	7
	Drowsiness	1
II. Sensational.	Dizziness	5
	Pain at cardia	0
	Itching of ulcer of face	1
	Itching of legs	1
III. Motorial.	Palpitation of heart	1
	Cramp in leg	1
	" arm	1
	" wrist	1
	Twitching of hand	2
	Neck drawn to one side	1
	Loss of motility	1
	Co-ordinated movements	5
	General tremor	1
	Blue colour under eyes	1
IV. Extrinsic.	Lachrymation and salivation	1

It will be seen that in the mental group depression of spirits was the symptom most frequently observed, irritability stands next, and then exaltation. Of the sensational symptoms, dizziness and pain at the cardia are the most prominent; in one the warning showed itself by an itching of an incurable ulcer of the cheek; in another, by itching of the legs. Among the extrinsic prodromata was a blue colour under the eyes in one case, and in another lachrymation and salivation. The patient affected by the latter symptom might be seen before the occurrence of the fit standing with the tears rolling from his eyes, his face flushed, and the saliva dribbling copiously into a spittoon at his feet. The motorial phenomena I can only regard as the first and immediate symptoms of the seizure; they have scarcely warned the patient when they are followed by the paroxysm, but, in accordance with custom, I have included them among the prodromata, though, as will be immediately seen, I have also classed them in another table as what I regard them.

The chief phenomena connected with the actual seizure were observed to be the following:

In 50 cases—39 males, 11 females—

	M.	F.	Total.
Loss of consciousness was the first symptom in	29	10	39
Muscular cramp or co-ordinated movements	10	1	11
There bit the tongue during fit	21	6	27
Uttered cry before fit	25	5	30
Fell during fit	39	9	48
Wet their beds during or after fit	19	7	26
Had fits during night only	12	3	15
„ both day and night	27	8	35
Span round during fit	4	1	5
Fell on head	3	0	3
Roll and kick	1	1	2
Convulsed most on right side	10	3	13
„ „ left „	8	2	10
Do not have comatose symptoms	2	1	3

The foregoing symptoms, the loss of consciousness, the cry, the fall, the proclivity of many epileptics to take fits in the night-time only, the predominance of spasms on one or the other side of the body, &c., have been so much discussed by the most competent authorities, that I do not care to enter upon their consideration otherwise than statistically, while I have nothing new to add to what is known respecting the pallor of the face, the dilatation of the pupils, the weakness of the pulse, and the slowness of the heart's action during the seizure. The following table shows the connection as to the time of the seizures with states of excitement:

In 39 males, 11 females—

	M.	F.	Total.
There were always irritable, quarrelsome, and vicious	12	1	13
There became excited and vicious before fit	6	1	7
„ „ „ after „	19	7	26
There presented no mental change	2	2	4
	39	11	50

The relation of epilepsy to insanity appears to be fourfold. First, epilepsy occurs as a transient symptom of that general excitement of the nervous system which results in insanity. It may either precede or happen during the course of a maniacal attack. Flemming* points out that the development of puberty is sometimes attended by epileptic seizures, and when the fits are severe and often repeated they are followed by an outbreak of mania or melancholia. I have

* 'Pathologie und Therapie der Psychosen.'

also seen recurrent attacks of mania begin with an epileptic seizure, and have notes of several cases in which it manifested the same transient form during the course of an inflammatory or congestionary attack. The maniacal paroxysm sometimes subsides after the occurrence of the fit, and cases have been known to date their recovery from seizures of the kind. Secondly, epilepsy, permanent and habitual, may be either the result or the cause of insanity. In the former case it is generally due to an organic cause, such as the formation of tumours and ossifications in the dura mater. I have known it to be developed during the course of a brain disease, which after death was found to be hypertrophy of one cerebral hemisphere. Dr. Hoffman, of Siegburg, has observed it break out in public girls, after they have been pent up in reformatories, and become insane from their too suddenly restrained mode of life. But the third, and by far commonest relation of epilepsy to insanity, is that in which it precedes the disease of mind, and depraves or destroys the mental powers by a series of long-continued shocks to the nervous system, the form upon which most of the observations in this paper are based. Here, too, we find some interesting facts, illustrative of the connection of the two diseases. As we have seen the cure of insanity to date from the occurrence of an epileptic fit, so also cases happen in which habitual epilepsy has been known to disappear after the development of mental imbecility. But the most curious and suggestive relation between the two diseases is the fourth, namely, that of replacement. Thus, a periodical attack may not occur, and its place be taken by a paroxysm of melancholia or mania, which disappears on the recurrence of the fits, but sometimes without this happening. And the same holds good when the two diseases are permanently connected. Here is a case in point.

A. M—, æt. 38, has been subject to epilepsy from infancy, and, with one exception, all the members of the family have been epileptic. He occasionally cries before the fit, bites his tongue, and falls suddenly. The seizures occur both day and night, without warning, and are followed by maniacal excitement, during which he talks incoherently, and has hallucinations of hearing and vision, fancying he sees persons attempting to injure him. They generally occur every fortnight, and it is noticed that if they do not happen at their regular time their place is taken by a fit of excitement, when he becomes maniacal, loquacious, given to singing, and has hallucinations similar to those after the fit.

In the next case the fits are replaced by paroxysms of fury.

A. B—, æt. 18, has been liable to fits since he was a year old. For some months after admission he was observed to be subject to sudden paroxysms of violence, but there were no symptoms of epilepsy, and, when such appeared, they were reported by his atten-

dants as something new. Since then it has been observed that the fits are irregular in their recurrence; sometimes he has many during a week, and at other times many weeks may elapse without a seizure, but during the periods when the fits are absent he is liable to sudden and impulsive fits of fury, during which he rushes instantaneously to the windows, and strikes every one in his way. This condition invariably subsides on the recurrence of the convulsive attacks. Indeed, it would appear from some facts that when there is a greater than usual interval between the fits, or when they habitually recur at long irregular periods, the place of the convulsions is always taken by some equivalent or vicarious symptoms.

This is illustrated by the following case.

J. R—, an idiot girl, æt. 33; lips thick, features heavy and ugly in the extreme; palate arched, and incisor teeth all flattened. Has never menstruated. Her habits, and the little she can speak, are very childish. She is subject to very severe epileptic fits every four or six months, and they are always followed by prolonged coma. In the intervals she is subject to attacks of excitement, during which she may be seen jumping to a considerable height for many minutes continuously, and at these times she is very violent, dashes her head against the walls, bites with great ferocity, and exposes her person to men. When the excitement passes away she becomes depressed and apathetic, sitting in a corner for days.

The impulsive character of these paroxysms, the great expenditure of muscular energy, their alternation with quiet intervals, and the extreme violence and erotomania attending them, leave little room to doubt that they take the place of the regular epileptic fit. These conditions of replacement lead, by a gradual and natural transition, into that class of cases which Morel has called "*épilepsie larvée*," latent or masked epilepsy. This observer states* that in asylums there are two species of epileptic insanity, one attended by the common convulsive phenomena, another in which these are absent, but which can be diagnosed as an equivalent of epilepsy, by the peculiar symptoms which characterise that disease. These are—"Periodic excitement, followed by prostration and stupor; excessive irascibility, without cause; the manifestation of aggressive violence, marked by instantaneity and irresistible impulse; exaltation of the sensibility, homicidal and suicidal tendencies; intercurrent insane ideas connected with the state of cerebral excitement; exaggerated notions of physical power, of wealth, of beauty, or of intelligence; erotic tendencies, coupled with exalted religious feeling; hallucinations of terror; sensation of luminous atmosphere; horrible dreams or nightmare; gradual progressive debility of the powers of understanding, and especially the memory; loss of recollection of events transpiring

* See 'Journal of Mental Science,' Jan., 1863.

during the paroxysms, the insane symptoms of each periodic attack having, both with reference to the ideas which occupy the mind and to the actions committed, the same identical character; and, lastly, the violence and duration of the delirious excitement determined by the duration of the remission." The best proof that these cases are really due to latent epilepsy is that, after months, or even years, convulsive phenomena make their appearance. As an instance of this, I give the following case.

M. F—, æt. 65, was admitted three years ago, but was stated to have been partially insane for several years previously. At the time of her admission she was highly excited, and incoherent in her talk; imagined that some persons had conspired to injure her; memory seemed quite lost. On observation it was found that she became excited every day after dinner; that during these paroxysms she was very violent, and used the most disgustingly obscene language; that she had no knowledge of the identity of persons, and invariably mistook her attendant for her daughter; that she could read, but had no memory of past or recent events; and that these symptoms were always the same with every paroxysm. During her quiet intervals she had very pious fits, and often repeated a form of prayer which she was in the habit of using. Latterly these paroxysms of excitement occasionally terminated with a fit of unconsciousness, during which she fell, and exhibited slight co-ordinated movements of the hands, but still later these symptoms became developed into the complete epileptic fit, attended by the cry, fall, and very severe convulsions.

Many other cases of the same nature may be recognised by the short duration of the paroxysms and the rapidity with which they recur; by the partial tetanic rigidity which accompanies them, the extremely sudden outbreak of mental phenomena, such as rage or incoherent delirium, and the equally rapid return to quiescence.

The following are my observations on the urine of epilepsy. When the fits are severe, occur for two or three days in succession, and are attended by mental excitement, the quantity of the urine is greatly diminished, in accordance with the law which regulates this secretion in maniacal paroxysms. Accompanying this diminution of the quantity of fluid, there is also a lessening of the amount of chloride of sodium, urea, phosphoric and sulphuric acids. The specific gravity is high, and there is an abundant deposit of urates. These facts are brought out in the following cases.

J. M—, æt. 50, an epileptic; fits occur every month, several in succession, for one or two days, and he becomes very morose, vicious, and dangerous.

PAROXYSMAL PERIOD.						
Days.	Quantity.	Sp. gr.	Cl Na.	Urea.	PO ₂ .	SO ₂ .
1	14.5 oz.	1033	21.14	325.64	14.44	28.61
2	17.0	1031	44.62	374.35	18.16	24.68
3	16.5	1034	43.41	375.37	26.27	43.67
Total	48.0	1032	109.17	1075.36	58.87	93.96

INTERPAROXYSMAL PERIOD.						
Days.	Quantity.	Sp. gr.	Cl Na.	Urea.	PO ₂ .	SO ₂ .
1	93.5 oz.	1016	54.54	572.68	29.60	29.38
2	99.5	1014	35.11	418.70	31.50	29.78
3	89.0	1013	64.89	414.00	31.15	26.64
Total	282.0	1014	154.54	1405.48	92.25	85.80

Here is also a second analysis of the urine during the paroxysmal period in the same case ; this time he made water so sparingly and irregularly that it was only obtained every forty-eight hours.

PAROXYSMAL PERIOD.						
Hours.	Quantity.	Sp. gr.	Cl Na.	Urea.	PO ₂ .	SO ₂ .
48	35.5 oz.	1032	94.79	687.23	42.25	49.30
48	36.0	1031	52.50	645.75	48.00	59.26
24	32.5	1023	18.95	398.12	29.79	27.72
Total	101.0	1028	166.24	1731.10	120.04	136.28

The average of these five days is less than the average of the three interparoxysmal days.

P. H—, æt. 24, an epileptic ; fits occur monthly, and he becomes excited, maniacal, and violent.

PAROXYSMAL PERIOD.						
Days.	Quantity.	Sp. gr.	Cl Na.	Urea.	PO ₂ .	SO ₂ .
1	31.0 oz.	1021	67.81	379.75	22.74	21.76
2	26.5	1030	54.10	456.02	26.07	23.80
3	40.5	1025	59.06	472.50	10.70	26.68
Total	98.0	1025	189.97	1308.27	59.51	72.44

INTERPAROXYSMAL PERIOD.						
Days.	Quantity.	Sp. gr.	Cl Na.	Urea.	PO ₂ .	SO ₂ .
1.	95.0 oz.	1017	152.39	881.19	60.59	45.51
2	91.5	1014	226.84	800.62	32.58	27.39
3	85.0	1015	111.56	614.83	40.40	34.36
Total	271.5	1015	490.79	2296.64	133.57	107.26

There is a second analysis in this case, also with the same result.

PAROXYSMAL PERIOD.						
Days.	Quantity.	Sp. gr.	Cl Na.	Urea.	PO ₂ .	SO ₂ .
1	21.25 oz.	1031	46.48	570.20	33.10	20.67
2	20.75	1030	39.33	502.18	14.07	19.30
3	33.00	1029	33.68	596.75	20.40	31.60
Total	75.00	1026	119.49	1669.13	67.57	71.57

Helen C—, æt. 26, an epileptic; fits occur every three weeks; she becomes very excited and violent, and talks incoherently.

PAROXYSMAL PERIOD.						
Days.	Quantity.	Sp. gr.	Cl Na.	Urea.	PO ₂ .	SO ₂ .
1	22 oz.	1030	77.00	385.00	31.18	23.00
2	7	1034	21.41	136.79	8.17	11.00
3	7	1030	20.41	147.00	5.37	7.85
Total	36	1031	117.82	368.79	44.72	41.85

INTERPAROXYSMAL PERIOD.						
Days.	Quantity.	Sp. gr.	Cl Na.	Urea.	PO ₂ .	SO ₂ .
1	35.0 oz.	1012	20.41	240.20	22.00	7.85
2	73.5	1006	42.87	192.93	16.21	9.80
3	51.0	1012	29.48	267.75	21.25	15.87
Total	159.5	1010	92.76	700.88	59.46	33.52

These were very severe cases, and I am quite convinced that the amounts of the urinary excreta of the paroxysmal period should not be regarded as anything like an approximate measure of tissue change, but that there must have been considerable retention in the blood. Subsequent observations of maniacal cases have tended to strengthen this conviction; for I have noticed that when the urine

is scanty, a small bleeding from the arm is followed by a greatly increased quantity of this fluid and its constituents.

This would appear to point to the suggestion, that the kidney, participating in the general excitement of the system, becomes congested and refuses to do its work. How far this conjecture may also apply to cases of retention of the urinary constituents in fever I leave to others more conversant with such diseases to decide. I do not, however, wish to dogmatise upon this point, because my observations are too few to justify any rigid deduction.

In the milder cases, where there is only one fit, and unattended by mental excitement, I have not found much difference between the urine of the day on which the fit occurred and that of the days preceding and following the paroxysm; at least not more than can be explained by the condition of the atmosphere and the quantity of food taken. I give two instances as an illustration.

The first is the case of Helen C—, previously given. This time she had only one fit.

Condition.	Days.	Quantity.	Sp. gr.	Cl Na.	Urea.	PO ₄ .	SO ₄ .
No fit	1	55.5 oz.	1009	56.65	210.43	16.65	16.55
One fit	2	38.5	1007	22.45	140.36	10.90	8.56
No fit	3	40.0	1007	21.50	143.33	8.63	5.93
"	4	41.5	1012	24.27	157.36	14.51	7.38
"	5	56.0	1007	25.83	163.33	15.86	7.47

George D—, æt. 33 :

Condition.	Days.	Quantity.	Sp. gr.	Cl Na.	Urea.	PO ₄ .	SO ₄ .
No fit	1	65.5 oz.	1022	66.86	611.33	52.40	30.11
"	2	63.0	1015	31.23	588.13	36.75	25.23
One fit	3	69.5	1021	81.08	750.02	64.70	48.41
No fit	4	62.5	1020	40.10	692.70	42.27	26.17
"	5	69.25	1019	80.79	919.00	40.39	30.80
"	6	80.0	1016	63.00	793.33	44.00	23.03
"	7	75.5	1020	83.67	770.72	45.30	35.85
"	8	79.5	1022	92.75	811.56	71.55	48.31

In some twenty cases I have examined the urine for sugar, but never succeeded in detecting it, although I have tested it at all times, both immediately after the fit and also hours afterwards.

The last point to which I wish to call attention in connection with epilepsy is the action of narcotics upon the brain. In the course of an inquiry on this subject, I found that large doses of opium, belladonna, and cannabis Indica, could be taken with great impunity by epileptic demented; that, in fact, it was often difficult, and in some cases impossible, to produce symptoms of cerebral narcotism, and that this is in proportion to the degree of dementia, so

that the toleration of narcotic drugs forms a kind of gauge of the mental state of a patient; in fact, all demented patients appear to tolerate narcotics with as much impunity as it is well known maniacs can do.

At the time I made these observations I was not aware that Dr. Bucknill had pointed out the same fact, which he had observed in the course of treatment.

CLINICAL CASES.

Cases treated by the Turkish Bath. By EDGAR SHEPPARD, M.D.,
Medical Superintendent of the Male Department of Colney Hatch Asylum.

THERE is no one, I suppose, engaged in the treatment of insanity so well satisfied with the physical and moral means at his disposal for his great encounter with the most terrible of diseases, who will not welcome every additional aid which time and the development of science may place within his reach. Even if the disciples of our specialty are sanguine of ultimate success in particular forms and types of disease, they will regard with no slight favour anything which can shorten the duration of that which is abnormal and destructive.

It has seemed to me always that there is a greater uncertainty as to the action of therapeutic agents among those who are insane than among those of whose mental integrity we are assured. Just as under the anxious wear of expectation—of “hope deferred”—or the sudden pressure of startling news, the curtained eyelids will not fall, so under the excitement of mania or the depression of melancholia the material structure makes itself up, as it were, for resistance of ordinary appliances, and becomes tolerant of an amount of remedial aid, in the shape of stimulants or sedatives, which is altogether remarkable. This tolerance may, perhaps, find its solution in the imperfect nutrition, and the defective powers of assimilation which are known to obtain largely in mental diseases. But it is more reasonable to suppose there is on the one hand a development, and on the other a suppression, of nervous force, which are alike capable of resisting the action of every remedy.

For instance, observe the amount of tartar emetic which can be borne in certain forms of maniacal excitement, without the stomach,

or the pulse, or the skin, or the excitement itself, being in any way affected thereby. So also of opium and digitalis. There is, perhaps, a greater degree of uncertainty about the action of the latter remedy than about that of any other therapeutic agent. Much as it is known to quiet the noisy forms of mania, and especially the ecstatic excitement of general paresis, cases are occasionally met with in which it exercises little or no influence, even in doses of three or four drachms. On the other hand, there are certain idiosyncrasies which are intolerant of even the smallest doses of digitalis. I have in my mind a remarkable instance of this in a powerful young man, the subject of chronic mania. During his periods of excitement he is singularly demonstrative. He gesticulates incessantly, writhes about, and misshapes himself by various contortions, and deep convulsive heavings of the chest. Thirty drops of digitalis nearly destroyed the heart's action for ever. The pulse was reduced from 100 to 38 in a very short space of time, and there was much difficulty in rallying the patient. Six months later I forgot the idiosyncrasy, and repeated the dose with like effects.

With this uncertainty, then, of agents whose action is more marked and consistent in diseases which have no alliance with insanity, we may welcome any aid calculated to exercise a beneficent influence upon our material structures.

I am mistaken if the Turkish bath does not hold out to us much of that assistance of which we stand so greatly in need. Its influence is very remarkable in certain forms of disease. In cases of melancholia it seems at once to establish a healthy action of the skin, to which the patient had been a previous stranger. All the processes of nutrition, previously arrested, are taken up with unwonted vigour. Wasted and attenuated forms assume a well-proportioned roundness, very distinct from obesity. The appetite returns, and sleep comes down upon eyelids which it had long forsaken.

The success which has attended the use of the bath points out with great clearness the functional use of the skin, and may well instruct us not to neglect that important covering. And yet how few are there who duly consider this, and how large a section of society gives no kind of thought to a matter the neglect of which eventuates in the reality of disease. Of this reality I now place on record a few examples.

CASE I.—W. S. N—, æt. 30, admitted July 22nd, 1865, with delusions, aural hallucinations, great depression of spirits, and impaired memory. Received a great shock two months ago by the death of his only child. He thinks the child has been taken away by women, and will be restored to him. Complains of constant pain in his head and of sleepless nights, when he fancies the child is under the bed. At times is quite confused and stupid; bowels costive, tongue furred, skin harsh and dry. Is a tall, good-looking fellow, with well-developed cranium and pleasing physiognomy. Ordered

ʒij of Tincture of Hyoscyamus and ʒj of Liq. Morph. Hydrochlor. in brandy mixture every night, the bowels having first been freely relieved by castor oil. On the second day after admission he had a shower-bath, but felt the shock to be too great for him.

July 26th.—Has had no satisfactory sleep; appears anxious and confused, and presses his forehead with both hands, complaining of great pain. Castor oil yesterday acted freely. Was taken to the Turkish bath, temperature 180°. In about twenty-five minutes the patient was bathed in a profuse perspiration; expressed satisfaction and enjoyment, pain in the head being the only drawback. Abundant epithelial flakes yielded by shapmooing; in fact, he was zebra-striped by rolled layers of epidermis. Cold douche relieved the head. Dropped asleep in the cooling-room, where animated conversation was going on, fifteen minutes after reclining on the couch, and woke up decidedly relieved. Said his skin felt as it never felt before—soft, and supple, and clean. Went to bed at 8 p.m. *without an opiate*, and slept soundly to 5 a.m. on the following morning.

31st.—Has been quite cheerful since the bath, and has played cricket in the front grounds with decided animation. Has slept well every night. Another bath, with equally satisfactory results.

August 22nd.—Has had two baths since the last date; is very greatly improved, both mentally and physically. Has discontinued the opiates ever since the day of the first bath. Plays cricket daily, and is cheerful and happy. The temperature of the bath to-day was as high as 205°. Skin acted freely; says he enjoys the bath more each time he takes it. Its immediate effect (as on previous occasions) was to make him "pleasantly sleepy."

This patient continued to improve steadily, taking a bath once a week, and was discharged recovered on September 26th.

It would be impossible to present a more satisfactory case than the above; it was one of unmistakable progression from the very first bath, when the skin was set free and the kindly influences of sleep were made manifest.

The high temperature resorted to in the above case may seem alarming to many. I deem it right, therefore, to state that there is no occasion to elevate the calidarium to this extent. Experience has since taught me that for nearly every purpose a temperature of 150°—160° is sufficient. It is better borne by the patients, and it is more certain in its effects than a very high range of the thermometer. Many will not perspire at all at 180° who will break into a profuse perspiration at 160° or even 120°. Moreover, I have seen reason to alter my opinion with respect to the dryness of the atmosphere. At first I was disposed to think that the measure of its dryness was that of its usefulness. But it is not so. An atmosphere slightly charged with vapour is much pleasanter to breathe; it is less irritating to the eyes and mucous surface generally, and the skin acts more quickly under it.

CASE II.—S. G—, æt. 45, a watchmaker, of nervous and irritable temperament; the subject of religious melancholia, with occasional maniacal excitement; admitted into the asylum May 31st, 1865. Has various delusions, notably that he is being robbed and plundered, and that his proper name is

Solomon. Skin dry and harsh; complains of frequent pain in the head; nights very restless.

July 31st.—Was taken to the bath, temperature 172° , dry radiated heat. Complained of scorching sensation; was in the hot room for forty minutes before the skin became at all moist; perspiration was not profuse at any time. Enjoyed the shampooing and the warm washing, but was somewhat timid under the cold douche. Felt relieved after being half an hour in the cooling-room; languid in the evening, but slept better, and thought himself improved the next day.

September 14th.—Improved; more cheerful; free from delusions. Had his second bath. Perspired more freely than on the first occasion; temperature 168° . Was better able to bear the cold douche.

26th. Another bath, temperature 160° . Perspires freely, and attributes it to the temperature not being so high as on the previous occasions. Enjoyed the entire process, and bore the douche with great courage. This patient is altogether improved, mentally and bodily. Sleeps well at night; appetite improved; free from delusions. Is occasionally somewhat depressed, but is easily roused into cheerfulness. As long as he is kept from mental introversion he can hold up his head manfully. Bath again on October 1st, 15th, 22nd, 29th; each time with greater enjoyment. November 7th, discharged recovered, with a determination to get an occasional Turkish bath in London.

CASE III.—J. J., *et.* 33, admitted May 9th, 1865. Suicidal and dangerous to others. Delusions that he has robbed his employers; melancholy, crying, praying, swearing. The following entry occurs in the case-book, and bears date June 23rd:—"This patient was melancholy and depressed for some days after admission, and then became maniacal, being noisy, violent, and destructive. Large opiates appear to have exercised but little effect upon him. During the last week two mustard-baths have been tried at bed-time, and two shower baths by day. He is now more tranquil, but very incoherent and voluble of speech (talking much German, having learnt that language from his fellow-workmen in a pocketbook manufactory). He has also hallucinations of sight and hearing. Face flushed, pulse rapid; is considerably emaciated. The mother states that he has always been very irritable."

July 31st.—This patient has improved since the last entry in the case-book, but is very unequal; at times he is much excited, and then he appears stunned by the shock of the recent mania, and scarcely to know what he is about. Still incoherent, and occasionally refuses food. He has generally slept better after a mustard-bath, of which he has had several. Taken to the Turkish bath to-day, temperature 172° . Perspired freely in twenty-five minutes; enjoyed the cold douche; bore the operation with great tranquillity, and expressed himself as relieved. Slept better than on any night since he has been in the building.

August 3rd.—Was much pleased when told he should have another bath. The same process (temperature 170°) caused the same enjoyment to the patient, and caused him to speak of it with gratitude and pleasure. Slept well; appetite improving; perfectly coherent, but seems to be occasionally lost, and making a mental effort to recover the past.

14th and 22nd.—The same, with the same results; the patient improving.

September 11th.—Since last entry J. J.—has been at work daily in the brush shop, and has improved considerably, both in mental and bodily condition. Had a bath to-day; skin acted well. Temperature 175° .

19th.—The same report as on September 11th. Temperature 180° .

28th.—Ditto.

October 13th.—Is much improved; is usefully occupied in the brush-maker's shop. Sleeps well at night; is grateful for what has been done for him, and expresses the highest opinion of the bath. To-day he perspired freely.

November 7th.—Discharged recovered.

CASE IV.—W. D—, æt. 33.—Admitted into the asylum October 26th, 1864. A case of determined suicidal melancholia. The patient has a morose and sullen look, with deep corrugated brow. Has perverted religious views, stating that he has been commanded by the Almighty to refuse food, and to immolate his child after the manner of Abraham. Is occasionally violent and aggressive; has twice attempted to strangle himself, and has several times run with his head full drive against the wall. The following entry occurs in the case-book, and bears date April 25th, 1865:—"Has a wild determined look; is occasionally very violent, and has made several attempts to strangle himself. The attendants have received special instructions to watch him carefully."

This patient had frequent shower-baths during the summer, but he did not like them, and declared they were given him for purposes of torture. His general health, however, improved, and he became somewhat more cheerful, though he never conversed with any one unless he was first spoken to.

August 3rd, 1865.—After a good deal of persuasion he was induced to try a Turkish bath; but he says that he is well, that he never shall be better, and that it is of no use to resist the Almighty. Temperature of the hot chamber 170°. Did not perspire very freely, except about the forehead and neck. Bore the douche with courage.

14th.—A second bath, temperature 180°; perspiration not free.

22nd.—Had another bath to-day, twenty minutes at 205°; improving in mental condition; appears to be losing his former sullen manner. For the first time since his admission he seems to enter into the amusements of the house with something like spirit. At the last two balls he has seldom failed to stand up and dance; is not taking any medicine at present, but is on generous diet.

September 14th.—Another bath, which he greatly enjoyed; perspired more freely, the temperature not being so high (168°). Sleeps better at night, and is decidedly more cheerful and contented.

23rd.—The bath repeated. The patient says he enjoys them more each time. Much improved.

October 24th.—Discharged recovered.

The skin of this patient was peculiarly harsh and dry, and never acted very freely from the first. But the later baths and the lower temperature were more effective. I had some doubts at one time whether W. D— would get well at all, and it was only by great vigilance and perseverance that he was restored to his friends and society.

CASE V.—R. C—, æt. 18, admitted July 7th, 1865, in a state of acute mania, being very violent, voluble of speech, and incoherent. His hands were tied to his side, and he was much bruised. Has had no sleep for many

nights, and is much exhausted, with dry parched lips and tongue, rapid pulse, and anxiety of countenance. Insanity said to be due to sensual excesses, and specially to masturbation. Ordered wine, milk, and beef tea, mixed, every four hours, and $\frac{3j}{\text{of}}$ Battley's sedative immediately, to be repeated in six hours if no results followed the first dose. This case ran one of the common courses of acute mania. After the storm of the primary attack was over he lapsed into consecutive dementia, became dirty in his habits, and insensible to all the outward decencies which he had previously observed. On August 19th the maniacal flame was again lighted up, the patient becoming noisy, incoherent, and destructive. On the 22nd he was taken to the bath—190°. Though quiet on entering, he became very excited in the hot chamber, dancing about and gesticulating wildly. The skin acted well and quickly, and the cold douche had the immediate effect of quieting and soothing. Slept well, and was more coherent and less excited on the following day. Bath repeated on September 1st and 14th. The patient was more tranquil on both occasions, and expressed a sense of great enjoyment.

September 23rd.—Had his last bath—170°; skin acted very freely; he described the cold douche as "perfection."

26th.—Discharged recovered.

CASE VI.—J. B—, æt. 37, a lawyer's clerk, admitted September 2nd, 1865, in a state of acute mania. His wife says that he jumps out of bed at night and runs down into the garden in his night-shirt, declaring that he is under magnetic influence. Supposed cause of insanity, the late excitement and work required in his profession at the recent elections. He admits that he drank immoderately, in order to sustain his drooping nervous energies. Bodily health fair on admission. Has hallucinations of sight, and is somewhat incoherent. Was in an asylum five years ago. Ordered generous diet, wine and opiates at night.

September 30th.—Considerably improved; nights tranquil. Ordered a Turkish bath, temperature 170°; perspired very freely. Epidermis peeled off liberally under the shampooing. Expressed himself as highly pleased, especially with the cold douche.

October 6th.—Is gaining flesh; no hallucinations and no delusions. Repeated the bath with great enjoyment; sleeps soundly; is usefully occupied in the kitchen.

17th, 22nd, and 29th.—The patient repeated the bath with great satisfaction and enjoyment.

November 7th.—Discharged recovered.

CASE VII.—G. K—, æt. 42. Admitted November 17th, 1865.

The facts specified in the certificate are—"Violent in his conduct, assaulting those near him without warning or provocation. Very restless at night, and fancies he has had poison given to him by his relations, which has injured him internally."

This patient was admitted in greatly impaired health, with an anxious careworn face, and his body bent up double, from the effects (as he said) of the poison. Skin cold and clammy. Is much emaciated. Frequently vomits after food, and especially after eating meat. Placed upon generous diet of a light character—milk, arrowroot, and fish, with 4 oz. of port wine and an opiate in brandy mixture every night.

November 20th.—Taken to the Turkish bath, temp. 165°. On stripping he appeared to shiver and tremble from want of fleshly covering to his bones. Entered the warm chamber with much satisfaction, and very soon broke out into a profuse perspiration of strong and disagreeable odour. The skin

yielded abundant epithelial flakes. Was somewhat frightened at the douche, and we merely gave him a gentle sprinkling of cold water.

27th.—Much improved. Has slept better, and is already beginning to make flesh. Says he is very glad to have another bath. Perspiration free, very strong smelling. Temp. 162°. Skin in better condition. Was able to bear the douche in moderation.

December 4th.—Continues to improve. Sleeps well; free from delusions. Says he has been out of health for some months, and that he has not been able to retain his food. This fact is confirmed by his friends, and constitutes the real substratum of his delusions. Another bath, temp. 170°. Free perspiration, still odoriferous. Bore the douche admirably.

13th.—The change in this patient is extremely marked; he has become quite stout. He still complains of debility and of weak digestion, but beyond this he appears to be quite himself. Bathed at a temp. of 170°. Results satisfactory as before. He had several other baths between this date and that of his discharge, January 30th, 1866.

This case illustrates most admirably the good effects of the bath in a subject of impaired and broken-down health. The emaciation of this patient was extreme; his restlessness was extreme likewise, and he had for some time before admission vomited his food daily. From the day of his first to that of his last bath he progressed in a most satisfactory manner. By free perspiration in a case of this kind something appears to be eliminated from the system which interferes with the assimilating processes.* The whole system is at once renovated; oxygen is taken in by the skin, and an electric stimulus is given to the sympathetic nerves.

CASE VIII.—H. L—, æt. 32. Admitted December 5th, 1865.

The subject of delusional mania. A very intelligent-looking man, a comedian. He has been insane for about twelve months—supposed cause, religious perversion. He fancies he is in direct communication with the Almighty, who is cruelly tormenting him for the very pleasure of witnessing his suffering. His time of trial is night, and when he wakes up in the morning he has a worn and haggard expression indicative of the intense reality of his mental torture. He attempted suicide several times before his admission to the asylum, and thinks he shall yet have to do so, in order to escape from his persecutor. General health good. Ordered opiates at night, with wine and generous diet.

December 10th.—Cannot sleep; skin harsh and dry; says he is very miserable, and that the Deity is abusing him. Is anxious to discuss the matter of his persecution, in order to point out its reality. Ordered a Turkish

* "For ourselves, respecting this important question of leanness and obesity, we have remarked what may be termed the *adaptiveness* of the bath to the two extremes of animal development. A thin and emaciated person will enter the sweating chamber terrified at the idea of losing more material than he has already lost, and wondering where and how he is to recover that of which it is proposed to deprive him. But, somehow, after perspiring profusely he has more energy. In a few weeks he makes sensible progress. Whether by the process of sweating something has been eliminated from his system which forbade the proper assimilation of food is not known, but certain it is that emaciated persons will gain flesh after a few Turkish baths, and seem to enter upon a new life. We have under our eyes several most remarkable instances of this fact at this present period."—From the Author's pamphlet on 'Bathing,' 2nd edit., p. 20.

bath, temp. 162°. Perspired freely and quickly. Much scarfy epithelium yielded by shampooing. Expressed a strong sense of pleasure from every process, from beginning to end.

January 2nd, 1866.—H. L.— has had four baths since the last date, all with much enjoyment. He says he is much improved, and that he would like to discontinue the opiates. He is much more cheerful, plays at football, has not the same anxious expression of countenance, has made flesh, and seems to be on the mend.

21st.—Three baths since the last date. General health much improved. Is still, however, the subject of delusions of the same painful character. He is evidently trying to conceal the measure of his suffering, but his countenance betrays him. His only fair nights are obtained after exercise (for which the weather has of late been very unfavorable) and the bath. He says he looks forward to the latter as the greatest luxury.

February 15th.—Several baths since last date. On speaking with H. L.— to-day he admits that he does not sleep so well as he did, and that his mental sufferings are very acute. He says the Almighty is torturing him, and that had he not been here he is sure he should have destroyed himself. The attendants have received special instructions to watch this patient carefully, as he is frequently heard to speak about suicide. I have ordered him ʒss of Liq. Morph. Hydrochlor. and ʒij of Tincture of Hyoscyamus in brandy mixture every night. At times he is very cheerful, especially at a dance or football. But the long nights are racking to him.

22nd.—Has slept better since the last date. To continue the same treatment. From the length of time that H. L.— has been insane, and the distressing character and effects of his delusions, there is much reason for prognosticating unfavorably of this case. But of the improvement in his physical health under the bath there is no doubt whatever.

CASE IX.—W. C—, æt. 31, admitted into the asylum September 18th, 1865. Countenance anxious and depressed; says he has had "the bad disorder," which his wife has given him (not true); that three persons with white faces are trying to do him an injury; has been violent at night, screaming "Fire!" and "Murder!" and saying that soldiers and the royal family are coming to him; is in greatly impaired health, being pallid and thin. Pulse 100; skin dry and harsh; tongue white and furred; does not sleep at night, and occasionally refuses his food. After clearing out the bowels by castor oil, I placed this patient upon generous diet; wine, opiates at night, and nitro-muriatic acid with gentian three times daily.

October 8th.—Somewhat improved; is naturally of a morose and sullen disposition; ready to complain about every little trifle; fancies his friends neglect him by not coming to see him. Ordered a Turkish bath, temperature 175°; perspired quickly and freely; timid under the douche, but enjoyed the process on the whole, and felt more comfortable afterwards.

29th.—Has had three baths since the last date, all of which he has much enjoyed. Has made flesh; appetite improved; is more cheerful; sleeps well at night; is occupied in the brushmaker's shop; perspired very freely to-day, and bore the douche with great courage.

November 12th.—Has not been so well the last few days; refused to work; complains that his friends are neglecting him; is dull and stupid, and with difficulty can be roused into conversation. Bath repeated; profuse perspiration; more cheerful afterwards. This case now progressed again without intermission, and after four more baths he was discharged recovered on the 19th of December.

CASE X.—W. D—, *æt.* 52, of nervous temperament. Admitted October 25th, 1865. Described as suicidal, but not dangerous to others. He fancies that he is being poisoned by acids put into his food, which produce strictures and paralysis in various parts of his body; is very restless at night, having hallucinations of sight and hearing. Has an anxious and withered look, the skin being peculiarly dry and harsh, as also his hair; the lobe of left ear much thickened and enlarged. Ordered opiates at night, generous diet, and nitro-muriatic acid twice a day.

November 12th.—Not improved; says the medicine makes him worse, but when it is omitted he wishes he had taken it; is very restless and fidgety, and never knows his own mind. Ordered a Turkish bath, temperature 165°. Was timid and frightened, and would not remain more than two minutes at a time in the hot chamber, saying that he could not breathe. Did not perspire at all freely; enjoyed the washing process, but screamed over the douche; was quiet and tranquil afterwards.

19th.—Remains very obstinate about his medicine; hesitates about everything, as to whether it is right or wrong; desires purgatives to work the poison out of him; nights very sleepless; skin still harsh and dry. Another bath, under precisely the same conditions as the last. Complained of constriction of chest in the hot chamber, and could not be persuaded to remain in more than three or four minutes at a time; skin is naturally very harsh and dry.

26th.—Not improved; appears to be quite lost at times; was ordered a day or two since to discontinue his medicine. His rest has been more disturbed since, and he begs that he may return to his night-draughts. Allowed. Was less fussy in the bath, and did not scream over the douche; perspiration rather more free.

December 1st.—Is very melancholy and depressed; sleeps better, and has no hallucinations. Bore the bath better; temperature 170°.

January 22nd, 1866.—Has had six baths since the last date, under each of which he perspired much more freely. Though very depressed at times, and reluctant to continue his work at the brushmaker's shop, we regarded him as improved. This afternoon W. D— managed to escape from the asylum. He made his way to London in pouring rain, and the attendant whom I sent after him found him at home by the fireside. He was brought back, and since that time, taking a bath once a week, with much enjoyment, he has steadily improved. He sleeps well; his skin is in better condition; he is free from delusions, and he has lost that fussiness of manner and hesitation which so characterised the early period of his insanity. I am persuaded that this patient has derived great benefit from the Turkish bath, and I am in hope of shortly discharging him as recovered.

These ten cases, which I submit to the profession as the first-fruits of a new therapeutic sowing, will be sufficient to indicate the salutary effects of a process which cleanses at once the outer and the inner man. It may safely be stated that in nine of them the use of the Turkish bath hastened greatly the improvement which is recorded, and which ended in eight discharges as recovered. I could multiply these cases considerably, but I may hereafter return to the subject with enlarged experience and more extended views. It may be desirable to add that the health of many of the attendants in this asylum has been greatly improved by the depurating process of the bath. One in particular, an old servant, becoming nervous and

hypochondriacal, and giving evidence of a general break up, is so changed for the better that he can hardly be recognised as the same man that he was six months ago.

In conclusion I may say that I have seen no evil effects from the bath. Two patients only have complained of constriction of the chest and unpleasant sensations in the hot chamber, out of more than forty treated; two or three have felt a little faint; and one yesterday, in a very feeble state of health, had to be removed into the cooling room and laid in the horizontal position, from the heart's action failing him. Beyond this everything has been cheering and satisfactory. The substitution of an atmosphere slightly charged with vapour for a very dry air has been a great improvement, and is found to set up perspiration more rapidly and more freely. Moreover it should be repeated that a temperature of 160° is sufficiently high for any purpose. There are some patients, indeed, who will not perspire even at 160° anything like so profusely as they will at 120° . By having two hot chambers—one at the former and one at the latter temperature—the patients can be transferred from one to the other according to existing circumstances and requirements. It is remarkable and gratifying to hear those who have gone through the pleasant processes of the bath speak of its good effects, of their growing love for it, and of their determination not to relinquish so great a boon when they quit the asylum. They notably allude to the sleep which it brought to their exhausted brains in the early stages of their maladies, when “tired Nature's sweet restorer” had been long a stranger to them. This gives to the Eastern luxury a charm in their eyes which can never be forgotten, and constitutes one of its strongest claims to the impartial consideration of those who are occupied in the treatment of the insane.

A Case of Pellagra occurring in the Montrose Royal Asylum.

By JAMES C. HOWDEN, M.D. Ed., Medical Superintendent.

THE following case of pellagra is of importance, chiefly as having occurred in a British asylum. The development of the pellagrous cachexia was very decided, and it would indeed be difficult to meet with an instance in which the symptoms were more typical. The patient was in tolerably comfortable circumstances, and neither poverty, nor exposure to the sun's rays, could be considered as predisposing causes. The disease was preceded by some years of indifferent health, and insanity was developed before the cutaneous or enteric symptoms shewed themselves. Mental derangement was first manifested in January, 1863. The erythema and diarrhoea did not appear till the following May and June, two months before admission

to the asylum. Though on 19th August the eruption had disappeared, it returned shortly afterwards on the hands, face, and neck, and latterly on the upper surface of the feet, which by the way were not habitually uncovered, either before or after admission to the asylum.

The paralysis had none of the characters of the general paralysis, or paresis of the insane, but seemed the result of a general enfeeblement of the whole muscular system, giving the patient the appearance of an old broken-down woman. She could not stand nor supply the simplest wants of nature without assistance, and the fæces were passed involuntarily. The cutaneous eruption and diarrhœa disappeared during winter, but returned with increased virulence in the summer of 1864-65. During the exacerbations, the appetite was uniformly voracious, and the tongue of a bright red colour. The stools were generally of a tarry character, sometimes watery. The diarrhœa was temporarily restrained by the exhibition of lead and opium, but always returned in a few days during the warm weather. The cutaneous eruption invariably became more severe when the patient was allowed to expose herself to the sun's rays; and was as certainly diminished when she was confined to the house and kept in the shade.

The case is purely sporadic so far as I am aware. The apparent recovery of the patient is only rendered doubtful by the continued irregularity of the pupils. In no other respect does she show any symptoms of the disease, which at one time seemed likely to prove fatal.

CASE.—Isabella S—, æt. 33, a factory spinner from Arbroath, was admitted into the asylum 19th August, 1863.

Her relations state that she had been in indifferent health, and had not menstruated for two years. About the beginning of the present year she began to show symptoms of mental depression. In the month of May these symptoms became aggravated, and in the early part of June an erythematous affection appeared, first on the back of her hands, and then on her face; at the same time she complained of great weakness, and was subject to constant diarrhœa. The medical certificates accompanying the order for her admission are as follows:—I. "Has a firm conviction that she has been guilty of some great crime. So unsettled that she can speak of nothing else. Always gloomy and desponding. Careless about ordinary employment. Has been queer and retired and unlike herself for seven months." II. "She answers questions incoherently. Her appearance and demeanour strongly indicate melancholia. Has been unmanageable for several months; has not slept lately; is generally indifferent and desponding." It was also stated that she had attempted suicide by strangulation and by precipitation from a window.

On admission her expression was vacant and her manner apathetic. She could not walk, and appeared to be generally paralysed. Her habits were filthy, and she could not speak. The pupils were equal and not dilated. The diarrhœa and cutaneous eruption had disappeared.

Shortly after admission a brownish-red erythematous eruption appeared

on the face and fore part of the scalp as well as over the knuckles of the right hand. The eruption was most marked in the mesial line of the face, and gradually faded towards the middle of the cheeks and sides of the forehead. After a time the skin became hacked and cracked, and a glairy fluid exuded which formed a thick hard scab; where there was no scab, numerous small pustules were noticed filled with a sero-purulent fluid. The eruption extended to the neck, the left hand, and to a slight extent to the dorsal aspect of the feet. The skin on all other parts of the body appeared normal. Urine examined and found free from albumen but loaded with lithates.

September 20th.—She is reported to be more intelligent, and can reply to questions. Habits still filthy.

October 21st.—Face still covered with an ugly brown scab. Skin on the back of the hands red, hacked and scurfy. Is much troubled with diarrhœa; stools tarry. Glycerine applied to the face and hands; diarrhœa treated with lead and opium.

25th.—Diarrhœa better, suffers from leucorrhœal discharge.

November 1st.—Still suffers from sudden attacks of diarrhœa once in two or three days. Stools now copious, dark brown and more watery. The attacks are most frequent in the evening and during the night.

3rd.—In a very feeble condition, unable to be out of bed. To have quinine and wine.

4th.—Quinine does not agree, causes vomiting, and is discontinued.

23rd.—The left leg below the knee is swollen, tense, and glistening in appearance. The smaller veins under the skin are marked by red and blue streaks. The foot pits on pressure. Complains of great pain in the leg. Urine not albuminous.

30th.—Leg better.

December 18th.—Since last report has sat up most of the day. On two or three occasions she has shown symptoms of excitement. Eruption has quite disappeared, though her face and hands remain of a thick leathery aspect. The diarrhœa has also ceased. Habits still filthy.

1864, January 5th.—Continues to improve in her physical condition, but is often for short periods much excited, noisy, sleepless, and incoherent in talk.

April 4th.—Has continued as at last report. No eruption.

June 14th.—An eruption, of the same character as that formerly described, again making its appearance on the face and hands.

July 4th.—Eruption continues to extend. It now covers the forehead, nose, cheeks, chin, and neck, as well as the back of the hands. Bodily condition very feeble. The right pupil is observed to be smaller than the left.

25th.—Has had a severe attack of diarrhœa for the last fortnight. The stools are, as before, black and tarry. The face is now one mass of hard, dry, cracked, grayish yellow crust. Glycerine has been applied to the face and hands, and the diarrhœa treated with lead and opium.

October 31st.—The eruption has again disappeared, but the skin retains a dull sallow aspect. She has been excited on several occasions since last entry. Still very feeble, habits now cleanly. To have cod-liver oil in addition to stimulants, and full diet.

1865, January 6th.—Has improved every day since last notice, both physically and mentally. Her conversation is now quite rational; she is tidy, active, and industrious, and is engaged daily in the workroom. Neither the eruption nor diarrhœa have shown any tendency to return.

April 5th.—Continues as at last report; right pupil still smaller than the left.

June 27th.—Remains well. Has menstruated regularly for six months.
 1866, January.—Visited at her home. She appears to have gained in flesh, and states that she is in better health than she has been for years; catamenia regular; appetite normal; she is quite cheerful, and her conversation is intelligent. Neither the eruption nor diarrhœa have threatened to return since she left the asylum. Articulation and gait are normal, but the difference in the size of the pupils remains.

PART II.—REVIEWS.

A Manual of Practical Hygiène, prepared especially for use in the Medical Service of the Army. By Dr. E. A. Parkes, M.D. Lond., F.R.S., Professor of Military Hygiène in the Army Medical School, &c., &c.

THIS work (says the author in his preface) is an attempt to carry out the wishes of the Commissioners (appointed in 1857 to inquire into the sanitary condition of the army) who recommended that an Army Medical School should be established; and it is intended as a text-book of hygiène for Dr. Parkes's class, as professor in that school.

Though it relates, as Dr. Parkes remarks, mainly to but one sex, and to a particular section of that sex; yet, considering that it treats pretty fully of the general principles of hygiène, it may be entitled to be called a work on general hygiène.

Perhaps there is no part of the curative art which has been so seldom made the subject of a separate treatise in this country as hygiène, although medical opinion has been gradually becoming for many years more convinced of the value of hygiénic means in the treatment of disease, and the faith in the exclusive value of drugs has been as gradually on the wane. The subject of hygiène is of special interest to those who have the care of the insane; hygiénic means are particularly applicable to the treatment of all chronic affections: its resources may be looked upon as so many chronic remedies.

The book is somewhat bulky, containing 612 pages of very closely printed matter; its style is terse and condensed, each passage contains a succinct account of the different opinions of almost innumerable authorities; so that, in fine, the work is more

of an encyclopædia than a simple treatise. The treatise consists of two books.

Book the first treats of hygiene in general, and book the second of the application of the laws of hygiene to the special wants of the soldier. It is therefore the first book which will prove of the greatest value to the members of the Medico-Psychological Society. The first book treats in separate chapters of water, air, food, habitations. Under the heading of water there are the following sections: the quantity requisite, the quality, mode of examination and purification,—and on many of these points Dr. Parkes makes some very valuable observations, which will be of great interest to every medical practitioner having the superintendence of an asylum.

With respect to the quantity of water requisite, Dr. Parkes estimates that “if baths are largely used—and their use is daily increasing—the amount of water must be practically unlimited; but from forty to fifty gallons per head daily is the least that should be used in a good hospital, and this, as far as imperfect estimates permit me to state it, is expended as follows:

	Gals. per hd. daily.
For cooking, including cleansing of kitchen	2 to 4
For personal washing, baths, &c.	18 „ 20
	Gals. daily.
For laundry washing	5 „ 6
For washing and cleansing hospital and utensils	3 „ 6
For water closets.....	— 10 —
	<hr/> 40 „ 46”

But, undoubtedly, for asylum purposes the quantity ought to be, as Dr. Parkes remarks, “practically unlimited.”

Many useful hints relative to the sources of water, the quantity of rainfall, the weight of different quantities, are given. These and similar formula will render the work especially valuable as a book of reference: for example, it is almost of daily utility in asylums to be able to estimate the amount of water by weight and bulk. So frequently do such matters come before the medical superintendent as matters of business that it is often useful to know how much a certain bath or cistern will contain. At page 4 this is given in a table, and one cubic foot is said to be equal to 6.23 gallons; so that a bath eighteen inches wide and five feet long would contain, in one foot deep, about forty-seven gallons. There is also given a formula to estimate the contents

of a cask, to gauge the quantity a stream will yield per diem, &c.

Then follows a series of condensed remarks on the composition of water from different sources.

The sub-section 3, on the "Sources of Contamination," is especially entitled to quotation. After considering that of lead, Dr. Parkes writes :

"The most common sources of contamination are found, however, in the habitations and trades of men. Shallow wells are extremely apt to be contaminated by surface impurities, and by sewage soaking from cess-pits, and by matters of all kinds thrown out on the ground. To a certain extent the soil through which these substances pass will filter and purify them; but it eventually loses the power, and also, at last, a complete channel may be opened, and a stream of substance might suddenly find its way into a well.

"A well drains an extent of ground around it in the shape of an inverted cone, which is in proportion to its own depth and the hollowness of the soil; in very loose soils a well of sixty or eighty feet will drain a large area—perhaps as much as 280 feet in diameter, or even more.

"Certain trades pour their refuse water into rivers.

* * * *

"Gases evolved from decomposing substances or thrown out from manufactures are also absorbed.

* * * *

"As there is now no doubt that typhoid fever, cholera, and dysentery may be caused by water rendered impure by the evacuations passed in those diseases, and as simple diarrhoea seems also to be largely caused by animal organic suspension or solution, it is evident how necessary it is to be quick-sighted in regard to the possible impurity of water from incidental causes of this kind." (P. 18.)

Dr. Parkes does not mention the fermentative or septic condition of the water, though he mentions the subject when speaking of the impurities of the air. He seems to admit that water is decidedly the medium of transmitting certain diseases from person to person, but, as far as we can discover, does not enter upon the subject of how those impurities or deleterious matters act.

The author gives specific directions for the proper examination of the water, dividing his remarks into, *firstly*, the physical examination, as by taste, smell, touch; *secondly*, the microscopical examination, to which is annexed a plate, with the portraits of various long-named little creatures, as *Grammatophora marina*, *Homœocladia filiformis*, *Ankistrodesmus falcatus*, all which and many others, which are lettered from A to B, and one by acci-

dent omitted—viz., Cyclops quadricornis—were contained in a well at Netley; and another specimen of water from a ditch which rejoices in an equal display of classically hard-named creatures; and *thirdly*, the chemical examination. Dr. Parkes suggests that it would be difficult for the army surgeon to carry out a thorough or minute quantitative examination by chemical means; but he gives directions whereby such an enquiry should be conducted. The medical superintendent's instructions, fortunately, may be more briefly given still, by a recommendation to send such an enquiry at once to an analytical chemist's, who has all the appliances for the practice. Nevertheless the chapter contains many useful suggestions. The quality of water is important to the medical superintendent, not only for the purposes of drinking, but also for cooking and washing. The impurities most to be dreaded are salts, as chlorides and nitrates, as they indicate organic admixtures, as animal excreta, from which they may have been derived.

With respect to the determination of organic matter, Dr. Parkes says (p. 21) :

“Determine the presence of organic matter and form a rough guess at the amount by boiling six ounces with a few drops of solution of chloride of gold. In proportion to the amount of organic matter the gold is reduced, and forms a violet or almost black powder. If this is considerable, the amount of organic matter is large.

“Even by these simple qualitative tests a very fair opinion may be formed of the quality of a water, or, at any rate, some guidance is given.

“If water does not deposit carbonate of lime on boiling, and after boiling continues to give a large precipitate with oxalate of ammonia, the presence of sulphate and nitrate of lime or chloride of calcium in large quantities, and not of carbonate of lime, may be inferred.

“If to the qualitative tests the quantity of solids per gallon, and the hardness of the water before and after boiling can be determined, a very safe opinion on the goodness of the water for drinking purposes can be given at the cost of little time or labour.

“If when a small quantity of permanganate of potash be added the discoloration occurs very rapidly, the organic matter is more probably animal than vegetable.

“If a very large quantity of chlorine is present the water is either contaminated with sea water, or with much sewage, or is drawn from strata very rich in salts, as in the case of some sands. A large indication of nitric or nitrous acid shows oxidation of animal matter.”

The modes of purification of water are then considered. Firstly, without filtration by exposure in divided currents; this is useful in removing hydro-sulphic acid and offensive organic matters. Secondly, by boiling by addition of alum, six grains to a gallon, by lime water or Condry's fluid; when used for the water of ponds it purifies almost immediately. Carbonate of soda, with boiling, precipitates lime and lead, &c.

"To put these facts in another form," says Dr. Parkes :

"*Organic matter* is got rid of most readily by exposure to air, boiling agitation, charcoal, alum, permanganate of potash, strychnos potulorum, astringents.

"*Carbonate of lime* by boiling and addition of caustic lime.

"*Chloride of sodium* by filtration through a great depth of charcoal and sand.

"*Iron by boiling* and lime-water, and in part by charcoal. Lead and copper are also removed or lessened by pure charcoal.

"*Sulphate and chloride of lime* and magnesia cannot be got rid of, but are perhaps lessened a little by filtration through charcoal.

"It should also be remembered that some water-plants have a purifying effect, apparently from the large quantity of oxygen they give out, and this takes place sometimes though the water itself is green." (P. 37.)

Other directions are given, as the mode of protecting water from lead contamination, various modes of filtration, and the consequences of insufficient supply.

The following general conclusions on the effects of impure water are given at page 63 :

"1. An endemic, in a community, is almost always owing either to impure air, impure water, or bad food. If it affects a number of persons suddenly, it is probably owing to one of the two last causes, and, if it extends over many families, almost certainly to water. But as the cause of impurity may be unusual, it is not always easy to find experimental proof.

"2. Diarrhoea or dysentery, constantly affecting a community, or returning periodically at certain times of the year, is far more likely to be produced by bad water than by any other cause.

"3. A very sudden and localized outbreak of either typhoid fever or cholera is almost certainly owing to introduction of the poison by water.

"4. The same fact holds good in cases of malarious fever; and especially if the cases are very grave, a possible introduction by water should be carefully inquired into.

"5. The presence of *Lumbrici*, Guinea worm, or *Bothrio-*

cephalus latus, should always excite suspicion of the drinking and bathing water."

Dr. Parkes further remarks, in a note appended to the above passages, that the effects of bad water are therein considered from the sanitary point of view, but the economical relations of the subject are also worthy of due consideration.

There is much less said about baths and bathing than we were prepared to expect in a work on hygiene, and Dr. Parkes's opinions on the subject would have been of much value. The question is only treated in a short paragraph on ablution; and it would seem that baths are not provided for the soldier even in permanent barracks. The value of bathing as a means of cure, and the necessity for various modes of bathing, seems to be generally acknowledged in all lunatic asylums, English or foreign; that is to say, in every ward of our English establishments we generally find a bath—whether bathing is general and carried out in an efficient manner is another question. Indeed, we do not mind expressing our conviction, that the bathing in the majority of English asylums is very defective, and the arrangements for bathing almost universally bad. It is generally supposed, and there is a kind of tacit assent to the supposition, that every lunatic in our large asylums has an efficient warm bath once a week, and this is what we are disposed to disbelieve entirely. With the means existing in most of the asylums the writer has visited, the arrangements negative such an hypothesis. We have examined a great many; and, as a rule, we have found that the baths are all too large, many containing from 60 to 80 gallons each; and, in the next place, in most instances they are supplied with water through one-inch pipes, very often, too, the waste is no larger. Now, such a bath could not be emptied and refilled under a quarter of an hour or twenty minutes; and, if each patient were allowed ten minutes for the operation of bathing, each must occupy half an hour a week; and thus, for every 100 patients, 50 hours will be employed in bathing only, or 250 hours for 500 patients; or with 10 baths, 25 hours, or more than 4 hours every day of the week. It may also be fairly doubted that every asylum has water sufficient for the purpose. The conclusion to be drawn from which is, either that the patients do not get a bath every week, or they do not have a bath full of water, or several patients must be bathed in the same water. Such a state of things is extremely objectionable, and how is it to be remedied? A suggestion of Dr. Robertson's appears to be worthy of adoption. It must be remembered that the use of the weekly bath is for ablution; the patient, therefore, need not be immersed. If a proper apartment were set aside, properly heated, and supplied with hot and cold

water, as in the ordinary Turkish bath rooms, the patient might be seated on a low chair or stool, and thoroughly washed with soap and flannel, and dried in from five to ten minutes each person, with the use of 4 or 6 gallons of water instead of 40 or 60, and the cleanliness secured from the operation would be greater.

The consideration of the subject of sewerage Dr. Parkes defers to the tenth chapter of his first part, but it may be spoken of here, in connection with the water supply, and he treats firstly, of the removal of sewage matters. He says—

“The quantity of excreta to be removed may be assumed, taking all ages into account, to be at least $2\frac{1}{4}$ oz. of faecal, and 46 oz. of urinary matter. A population of 1000 persons will therefore pass daily 156 lbs. of solids, and 250 gallons of urine; or in a year, 25 tons of solids, and 91·250 gallons, or 14·646 cubic feet of urine. If sewers are used, this is greatly diluted with water.” (P. 305.)

He gives, also, every requisite instruction relative to the gradients required for sewage pipes; thus, 4-inch pipes require a fall of an inch in a yard, or 1 in 36; a 6-inch pipe 1 in 65; and an 8-inch pipe, 1 in 87.

Those who have watched the progress of sanitary improvements will remember the fierce controversy of the gauges in the matter of sewers as well as railroads; there was a very strong party advocating the necessity of diminished size of drains, by which several advantages were promised, as increased velocity in the flow, diminished cost in construction, facilities of increasing the fall. There is no doubt that there were great evils connected with the very large drains that existed twenty or thirty years ago; in fact, they soon became long cesspools; but the more they became obstructed the larger they were made. The old builders (they scarcely deserved the name of engineers) insisted, that if the drain was larger it would be yet stopped. The old Board of Health, advised by Mr. Austin, soon reversed this state of things; the subject of the material to be used in making drains was also greatly improved. Brick drains were discouraged, and glazed stoneware introduced. Dr. Parkes discusses at length all these minutiae, and he leans rather toward a medium size drain-pipe, as the safer under all circumstances. He does not mention any particular construction of the drain-pipe; but undoubtedly the improvement introduced by Jennings, of fitting pipe to pipe by means of a movable socket, is worthy of universal adoption; under the most favorable circumstances, drains will occasionally become obstructed. In asylums, where many obstructing materials are likely to find their way into them, this is particularly the case. To get at the ordinary pipe

with immovable sockets the ground must be opened, perhaps a pavement removed for several yards, before the ordinary pipes can be separated ; but in the patent pipes any part of the pipes can be opened by a small removal of earth, either for the purpose of examining the contents of the sewer, or making new connections with them.

Dr. Parkes dismisses the subject of water-closets by the short remark, "that little need be said." To this, on the principle that correction will be thereby avoided (?), Dr. Parkes recommends Jennings and McFarlane.

The position of water-closets, or latrines, he considers to be best outside in barracks.

But perhaps the subject of water-closets is of less moment in the barracks and camp than it is even in the asylum ; and since the book is large and full, to settle this question in nine lines only shows how condensed the information given is, and how much the work contains. The water-closet question is one which every superintendent has to consider well ; the apartment itself ought to be the cleanest place in the establishment, and to make it so it is essential to have a proper apparatus. After having made numerous trials of different kinds of closets, the writer believes he will be conferring a distinct favour on all those who have, as yet, not tried Jennings' syphon pan, to strongly recommend them to do so. He has now used this description of closet for fifteen years, during which time he has had above sixty under his management, both in public buildings and private establishments, and they have invariably proved satisfactory.*

Dr. Parkes has more to say about the dry closet, or the dry method. This mode, of course, is only applicable to out-door places ; the dry material used is generally earth. Of course the chief object is to collect the matter for manure.

The subject of irrigation by sewage is one which Dr. Parkes does not specially discuss, and it seems just at present to have particular interest, for the sewage question has been several times spoken of in this Journal, and in many asylums, both public and private, sewage irrigation has been inaugurated. The point of interest connected with the subject at present is, not the good it may do to the grounds or vegetation, but what harm it can do the inhabitants of the soil irrigated. On the subject of soils, Dr. Parkes has the following passage.

"Passage of air through Soils.—Some of Pettenkoffer's observations on cholera show that the effluvia from decomposing

* A visit to Jennings' Sanitary Works in London would repay any medical superintendent, more especially if they should happen to meet the intelligent proprietor himself.

cholera evacuations may pass to some distances through very loose soils, and it is by no means impossible that the effluvia from typhoid stools or common fæcal matters may do the same. It is a practical point of importance, especially on the sandy plains of India, to see that there is no chance of transmission of disease in this way."

Another passage which bears on this subject, under the subject of disinfectants, where he says—

"Dried earth, lime, charcoal, and carbonates of magnesia and lime are the principal disinfectants." And further on, in giving the power of each, he writes—"Dried marly earth is much inferior to charcoal, but still it can be employed." This mention of the deodorizing power of the soil refers to its use in small quantities, of course. The question of the power of sewage, distributed over the soil, to produce ill-effects on man, is a matter of much importance, and the subject certainly deserves special and accurate investigation. In our notion, the coincidence of disease in a single asylum, with the employment of sewage irrigation, cannot settle this question, while irrigation works and no such prevalence of disease occur together in such innumerable instances; but the case of the Cumberland Asylum, brought forward by its able medical superintendent, is deserving of very serious consideration, and this chiefly from the logical way in which that single case was inquired into.

We must, however, quit this portion of the author's labours to examine into a subject of equal importance, and on which Dr. Parkes's opinions are of no less value, viz., the subject of ventilation and warming.

The subject of ventilation follows the examination of the air; the subject of warming finds its place after the sewage question. They may, however, be brought together here; the one is closely connected with the other.

We will first examine the chapter relative to air. This is discussed by Dr. Parkes under six sections:—1, quantity necessary; 2, composition; 3, impurities; 4, septic condition of the air; 5, its purification; 6, diseases arising from its impurities.

On the subject of the quantity necessary, this question may, Dr. Parkes says, be answered by calculation and experiment. This chapter is like the rest of the book, full of valuable matter, and the scientific or the theoretical part of it appears to be coming much nearer in its conclusions to the experimental than in our experience we as yet have had the pleasure of finding it.

Time was when fifty feet per hour was the quantity stated to be requisite; as time has advanced, this has been gradually increased, and now it seems to have risen to 4000 feet per hour.

The mode of calculation alluded to to determine this question is, by taking the carbonic acid of respiration as a convenient measure of impurity. Thus, an adult respire 480 cubic inches per minute, or 16.66 cubic feet per hour. In respiration the expired air is charged with CO_2 ; to reduce this to a normal ratio more than 100 times the volume of expired air must be supplied, or 16.66 cubic feet per hour; but since the air added contains CO_2 and other impurities, at least one fourth more must be added, which brings up the amount to 20.82 cubic feet per hour. The writer found 3720 per head per hour to be insufficient. Dr. Parkes says, in some cases 6000 feet must be given; but the passage which, after all, is the most worthy of extraction is the last passage of the sub-section 1, p. 67:

"Wherever practicable, we should be contented with nothing short of an almost unlimited supply."

From 2000 to 6000 feet is rather a wide range it may be supposed, but what proof is there that either are right; calculations that differ so widely in their results have a suspicious character, besides, it may be boldly denied that the calculation based on the quantity necessary to dilute CO_2 is a correct one. Carbonic acid is only one of the impurities of the air. In our dwellings contamination of air from this source is wholly insignificant compared to that arising from the emanations from innumerable other foul things and places; indeed, the details of the different matters polluting the air occupy several pages of Dr. Parkes's book, which reads like the list of ingredients for the witches' cauldron.

But surely air is cheap, and, when pure, innocent enough. The supply is abundant, and no good reason ever has yet been broached why it is to be stinted. What is the use of expensive apparatus for getting air into a dwelling when, really, the only difficulty is how to keep it from entering too copiously? If we lived below the water or deep in the bowels of the earth, a question might be raised of how much should be supplied of this precious material to paupers or soldiers; but to the ordinary inhabitants of the earth's surface the only point of interest would seem to be the maximum we must stop at, and not the minimum that may suffice. The limit at which to stop is easily arrived at; indeed, each person may readily determine the question for himself, and usually carries about him delicate instruments on a sensitive surface which will aid him.

Tested by such means, the quantity of air which a man may enjoy, and should have even in a workhouse, will, we imagine, be found far above 2000 or 4000 feet per hour.

The truth is that 20,000 feet per hour would not be too much. The points that rule the question are to limit the supply of nature

only by the cooling effect produced by the air. If the air is imperceptible to the senses, of course it is exerting no cooling influence. When the air is of temperate heat, and not moving more than $1\frac{1}{3}$ mile per hour, the more a person can have of it the better; the quantity may be then limited only by his own capacity for receiving it. Say the superficies of one side of a man are five square feet—which it of course exceeds—then the air moving through an opening of five square feet would amount to 35,200 cubic feet per hour; in other words, on summer days, with air temperate, that amount might be given without inconvenience, and if the temperature was very great half as much more would be all the more grateful of course. In the winter rather less would be preferable, perhaps. It is essential to have abundant supply, for air is required not only for respiration, but in buildings for other purposes, as lights. A common gas-burner will burn three feet of gas per hour, and will consume ten, or probably twelve, feet in an evening of four hours, and therefore 18,000 to 21,600 cubic feet of air must be introduced for this purpose alone in four hours.

Our space will not permit of our extracting the remarks on the different impurities found in the air, nor of the modes for purifying the atmosphere by various chemical substances. There is no doubt that the chief and best agent is dilution, and therefore a thorough supply of fresh air is essential.

There is a subject, however, on which individually we are much pleased to have the author's opinion—that ever difficult matter of ozone. The author's extreme deference to the opinion of others has to be borne in mind in reading many passages, and it must not be lost sight of here. He says:

"Ozone.—Papers covered with a composition of iodide of potassium and starch and exposed to the air are supposed to indicate the amount of ozone present in the atmosphere."

He then describes how the matter is to be carried out, and adds, a little further on:

"The estimation of ozone is still in a very unsatisfactory state. . . . Indeed, some chemists have doubted whether any proof has ever yet been given of the presence of ozone in the atmosphere (Frankland). . . . In spite of these difficulties, it seems desirable to continue the ozone observations; they must have a value, and the investigation will perhaps bring its own interpretation. But at present we ought to be cautious in drawing conclusions from any ozonometric experiments."

In connection with the subject of the impurities of the air, the fermentative theory of propagation of disease is discussed, but again very briefly. Dr. Parkes says it is possible it may be found concerned in some of the so-called zymotic diseases. "On

so difficult a subject," he adds, "as the origin of the contagious diseases, it is not safe to make at present any conjectures." Unfortunately at present this is pretty much all that we can do. Certainly the septic theory is as good as any other, and, to our minds, gives the more satisfactory explanations.

The question of the ventilation, or, rather, the means of conducting it, occupies several pages, but is given in a very condensed form—so condensed that the periods read like so many axioms. To those who have given much attention to this subject each passage will be found to be pregnant with learning.

"To keep the air of any habitation at the necessary degree of purity," writes the author, "the change must amount to 2000 feet per head per hour for persons in health, and from 3000 to 4000 feet for the sick."

This is his starting-point, but, since we should be disposed to multiply these figures by ten, it is obvious that we cannot go along with the author in his conclusions.

This, indeed, is the key to the whole question of ventilation—if 3000 or 4000 feet is all that is required, the very well-devised and costly apparatus may effect it; but, as Dr. Parkes says, "*Wherever practicable*"—and that is everywhere—"we should be contented with nothing short of an almost unlimited supply." The means of ventilation may be therefore divided into two kinds—those which will give the unlimited supply and those which will give the limited supply; and the former have the advantage of being the simpler and less costly. This unlimited supply can be obtained by open windows; the movement of the air will ensure the supply constant and unremitting. It is seldom, indeed, the natural movement of the air falls below a velocity of one and a quarter per hour, and if it did the various currents occasioned to it by different temperatures and the law of the diffusion of gases will always effect a proper purification of the air. Artificial movement of the air can only be required in this country in places such as mines or ships' holds, where the air is artificially excluded; where an open window cannot be obtained, &c., the limited supply is the only effectual means of ensuring the proper supply. In hot climates, however, the air is used for the purposes of cooling; in this case an extra movement has to be given to it mechanically, but this is not of interest here.

Dr. Parkes discusses the various modes which have been vaunted from time to time for the purposes of artificial ventilation. Our space is too valuable to be filled with what is not of practical importance; but artificial ventilation may be very briefly shown to be inadequate on scientific grounds, practical grounds and experience having long ago arrived at this conclusion.

If artificial ventilation is to be carried out, in the first place

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natural ventilation must be stopped. To be efficient, whatever plan is adopted, its action must be constant; not only not liable to temporary derangement, but absolutely free from possibility of stopping. After reviewing all the different modes, that mode which appears to have these essentials to the greatest degree is the "extracting shaft"—one tall ventilating chimney, with a fire constantly burning in it. Even this fire is liable to go out; but it is much less liable to stoppage than any other expedient for moving the air, such as steam jets, pumps, fans, bellows, all of which depend upon machinery.

The ventilating shaft, in fact, we possess in every room with open fireplace, but every one knows that no room, and especially no sick room, can be kept sweet with merely a draught up the chimney; but in a so-called model ventilator there is a grand shaft erected at a distance, generally with flues ramifying, like arteries, to a large aorta.

To show the absolute inefficiency of such means, we will give a calculation of what such a shaft should be to do the work properly, and Dr. Parkes's tables will readily afford us the means.

Let the problem be the following, and which can be answered by a reference to page 128 of our author's work:

Required the height and size of a shaft for the due ventilation of an asylum for 400 patients.

To give 5000 feet only per patient per hour the shaft would have to be fifty feet in height and of one hundred square feet superficial area, and to be kept in a constant temperature of ten degrees above the external air. I have already shown four times this quantity of air can be had gratis through a common sash window, and not be too much, and sometimes not enough, as when in the summer, air is required for the purposes of cooling the body.

In Dr. Parkes's work will be found an enumeration of the different so-called ventilating schemes, faintly praised for their ingenuity, but which we hope in the second edition will be wholly condemned.

We are compelled to quit this topic for the subject of warming, which is also of equal importance, and has also been rendered unnecessarily complicated by persons having no scientific information—men who have endeavoured, ingeniously enough, often to contrive stoves and fire places of an infinity of patterns.

The subject of warming, however, occupies but a very small section of the work. This arises from want of space and the secondary importance of the subject to soldiers and persons in health. There are three modes of communicating heat—viz., by radiation, conduction, and convection. Dr. Parkes glances at those modes, and he justly remarks that heating by radiation is decidedly preferable. He has a certain leaning towards warming

by convection on the score of its economy. The whole question of warming and the means would require much greater space than our limits will permit; for though barracks do not require the warming to be so nicely adjusted, asylums and hospitals for the insane need much greater attention to this point, and to do justice to so important a subject a separate article of many pages would be requisite.

We have written enough, we trust, to convince our colleagues that this work is one which will be singularly useful to each in their daily duties, and would be a most valuable addition to their library. Every chapter and every line contains most useful information, and if the book has its faults it arises from an extreme deference to the opinions of others, which we cannot help feeling prevents the author from stating boldly his own opinions when they clash with others; but the profession generally has as high an opinion of the author's impartiality as they have of his learning, and, at all events, speaking for ourselves, we should have preferred to have on several occasions had an expression of his own views than the catalogue of opinions broached by others. His own conclusions on any subject connected with the physical sciences or with medicine would be universally received by his professional brethren with the fullest confidence.

On the Brain of a Bushwoman; and on the Brains of two Idiots of European Descent. By JOHN MARSHALL, F.R.S., Surgeon to University College Hospital.

THIS is an elaborate paper, describing the *convolutions* of a Bushwoman's brain, and also those of the two smallest human idiots' brains yet on record. It is one of the most complete and philosophical anatomical memoirs in this or any other language, and is enriched with several admirable lithographs, from photographs of the brains described. Difficult as it is to give a summary of so careful a paper, we shall endeavour to direct attention to certain leading points of interest, referring those who wish to study the subject scientifically to the original description.

The total capacity of the entire cranial cavity of the Bushwoman was 60·64 cubic inches, while the corresponding capacity of the largest skull measured by Morton was 114 cubic inches, and that of the largest skull measured by Wagner 115 cubic inches. Mr. Marshall calculates that the recent brain of this woman would have weighed 30·75 oz.; the weight of the smallest

healthy European female brain, recorded by Wagner, being 31.7 oz. It appears, however, from Dr. Boyd's tables that, height being considered, the European average weight of brain of a female 5 feet high, which was the Bushwoman's height, would be 40 oz.

"The ratio of the cerebrum to the body in the Bushwoman, assumed with a height of 5 feet to weigh 90 lbs., would therefore be as 1 to 52, whilst that of the cerebellum to the body would be as 1 to 418; whereas, allowing 6 lbs. additional weight (96 lbs.) to the average European females of 5 feet 1½ inch high, the corresponding ratios would be 1 to 41, and 1 to 328.

"Without claiming for these numbers a perfect accuracy, and even subjecting them to certain small corrections, they support the statement that, in reference to the body, the cerebrum and cerebellum are both inferior in the Bushwoman as contrasted with the European aged female; and it will be seen that both organs are about equally defective, *i. e.* in a proportion of about .78 to 1.

"Imaginary lines drawn from the centre of the medulla oblongata, where it intersects the pons, to the extreme occipital, frontal, parietal, and vertical points of the cerebrum, lines which I have elsewhere designated *cerebral radii*,* measure, in the Bushwoman, respectively 34, 40, 35, and 41 tenths of an inch; whilst in a European female they measure 33, 43, 39, and 46 tenths. Accordingly the occipital radius, owing evidently to the length of the temporal lobe backwards, is slightly in excess, the frontal radius is a little defective, the parietal a little more so, whilst the *vertical radius is the most so*, as compared with the European brain.

"The final result of these measurements, as well as of others given in Table I, at the end of this paper, and of the facts elicited by the examination of the several aspects of the brain, is to show that in this Bushwoman the cerebrum is small but long, defective in width, and especially so in *height*; that its outlines and surfaces are angular and flat, instead of rounded and full as in the European; that, of its several regions, the frontal, though long, is very narrow and *shallow*, much excavated below, and compressed laterally in a remarkable manner behind its angles, in front of the Sylvian fissure; that the parietal region is *low*, though, relatively to the surrounding parts, prominent; that the occipital region is long, but narrow, and also remarkably defective in *height*; and, lastly, that the temporal region is long, though somewhat narrow."

Mr. Marshall next goes on to give a detailed description of

* 'Nat. Hist. Review,' 1861, p. 304.

the fissures, lobes, and convolutions. The condition of the fissure of Sylvius "recalls to mind the foetal state of the human cerebrum, but, so far as I am aware, is not present in any adult quadrumanous brain." The hinder border of the frontal lobe, constituting the anterior margin of the fissure, was very defective; this being the anatomical reason of a remarkable constricted form, which appears to be characteristic of the Bosjesman. "Coupled with the infantile features noticeable in the Bushwoman's skull, this peculiarity becomes very interesting."

"With a few exceptions, these primary fissures are somewhat more complex than those represented in Gratiolet's figures of the brain of the Hottentot Venus; but nevertheless they are far more simple and more easily distinguished amongst the numerous secondary sulci than in the ordinary European brain. In this greater simplicity and definition of the fissures generally, in the slightly more vertical direction and step-like course of the Sylvian fissure, and in the decidedly more upright position of the internal perpendicular fissure, the Bushwoman's brain approaches somewhat the quadrumanous characters; but it deviates more widely from them by the special interruption of the external perpendicular fissure, by the greater length and inclination backwards of the fissure of Rolando, by the more marked want of symmetry on the two sides of the brain, and by the greater number and complexity of the secondary sulci."

After an exact description of each convolution, and a careful comparison of each with the like convolution in the brain of the so-called Hottentot Venus, as described by Gratiolet, Mr. Marshall deduces the following important conclusions, which we cannot better give than in his own words:

"1. All the primary convolutions which exist in the human brain, viz., the orbital convolutions, the three frontal rows, the two ascending parietal and the parietal lobule, the supramarginal with its lobule and the bent convolution, the three external temporal, the three occipital rows, those of the island of Reil, the marginal and callosal convolutions, the quadrate and occipital lobules, and the three internal temporal convolutions, are present in the Bushwoman's brain; but, as compared with the same parts in the ordinary European brain, they are smaller, and in all cases so much less complicated as to be far more easily recognised and distinguished amongst each other. This comparative simplicity of the Bushwoman's brain is of course an indication of structural inferiority, and indeed renders it a useful aid in the study of the more complex European form. On contrasting the several regions of the cerebrum, the primary convolutions of the upper frontal and outer parietal regions are, on the whole, the best developed; those of the middle and

lower frontal regions, the temporal region, the central lobes, and the inner surface the next; whilst those of the orbital surface and occipital lobe are the least developed.

"2. Of the connecting convolutions, those highly important and significant folds, the external connecting convolutions are, in comparison with those of the European brain, still more remarkably defective than the primary convolutions. All four of these convolutions are present; but all are characteristically short, narrow, and simple, instead of being complex, and occupying a large space; hence, though the external perpendicular fissure is soon filled up, the parietal and occipital lobes are more easily distinguishable from one another than in the European brain. The upper external connecting convolution on the left side does not superficially join the parietal lobule, but sinks beneath it and the bent convolution. Of the internal connecting convolutions the arrangement is normal.

"The numerous secondary sulci and convolutions, which so complicate the larger ones in the European brains, are everywhere decidedly less developed in the Bushwoman—but especially so in the occipital and orbital organs, on the bent convolution, and on the external connecting convolutions. This is a further sign of structural inferiority.

"3. Compared with the brain of the Hottentot Venus, as that is represented by Gratiolet, the Bushwoman's brain is, in nearly all cases where comparison is possible, a little, though a very little, more advanced and complex in its convolutional development—the one exception being in regard to the size of the occipital and external connecting convolutions, which are smaller in the Bushwoman. It is possible, however, that some of the apparent simplicity of the Hottentot Venus brain may be due to the unavoidable loss of form and detail incidental to its long period of preservation, as compared with the more recent and comparatively uninjured Bushwoman's brain. This may account, for example, for the comparative breadth and smoothness of the upper frontal and of the middle and lower temporal convolutions in the figures of M. Gratiolet. Allowance being made for this, the resemblance between the convolutions of the two brains is very close, and serves to confirm the demonstration by that author of the relative simplicity of the Hottentot Venus brain—a simplicity which he has only seen partially paralleled in normal European brains, but which, in my own more limited experience, I have never even seen approached in healthy brains.

"4. Whilst, then, the difference between the Bushwoman's brain and the European brain, not merely as to size, but as to convolutional development, is very marked, that between the Bushwoman and the Hottentot Venus is very small; and, indeed,

if we regard the relative general development of the convolutions as a gauge of proximity or separation, it is turned into a near resemblance; and since no suspicion either of idiocy or other defect exists as concerns the Bushwoman, this would go far towards proving that the inferiority in the cerebrum of the Hottentot Venus is not due, as has been suggested, to an arrest of development of a personal or individual kind, but that, whilst undoubtedly both brains show an infantile or foetal leaning, this is to be attributed partly perhaps to sex, but in the main to the characterisation of the race itself.

" 5. As regards the question of the symmetry of the convolutions, it may be said that, although it is certainly easier to compare those of the two hemispheres in the simpler brains of the Bushwoman and Hottentot Venus than in the more highly developed European brain, still a very cursory examination shows that in numerous particular points, already mentioned in our description, there is just as frequent an occurrence of asymmetry in the two former as in the latter, by which circumstance therefore they manifest a truly human character.

" 6. Although not only in size, but in every one of the signs of comparative inferiority manifested in the lower convolutional development of the Bushwoman's cerebrum, it leans, as it were, to the higher quadrumanous forms; yet, as regards the sum of its convolutional characters, judged of by the presence or absence, the individual and relative size and position, the comparative complexity or simplicity, and the symmetry or asymmetry of particular fissures and convolutions, there is a greater difference between it and the highest ape's brain yet described, viz., the adult orang's brain, than between it and the European brain (compare plates xx and xxiii, figs. 7, 9, and 20). This difference is, as one evidently would expect, especially marked in the regions peculiarly developed in man, viz., in the anterior outer and upper parts of the frontal lobe, in the prominent part of the parietal lobe (that is, in the characteristically human supramarginal lobule), and in the regions of the external connecting convolutions, especially of the two upper external ones. It is almost needless to add that there is far less difference in convolutional development between the Bushwoman's brain and the European brain, than between the lowest and highest quadrumanous brains. If, indeed, we disregard the general differences of size and complexity, and look only to those which have been considered as special peculiarities, such as the existence of the supramarginal lobule and the joint relative development of the two upper connecting convolutions, there is less difference between the Bushwoman and the European than between the chimpanzee and the orang. . But perhaps it is pre-

mature yet to decide this latter point. It is certain, however, that there is less difference in convolitional development between the Bushwoman and the highest ape, than between the latter and the lowest quadrumanous animal.

"7. Finally, the establishment of the conformable development of the brains of the Bushwoman and Hottentot Venus (herself believed by G. Cuvier to have been a Bushwoman of small stature) is a step gained in cerebral anatomy; and their common inferiority to the European brain may justify the expectation that future inquiries will show characteristic peculiarities *in degree* of convolitional development in the different leading races of mankind."

The internal structure of the cerebrum of the Bushwoman's brain also exhibits evidence of its inferior development, especially in the deficiency of the system of transverse commissural fibres.

"Compared with the area of the internal surface of one hemisphere, the sectional area of the corpus callosum is in the Bushwoman's brain as 1 to 25, in the European as 1 to 12·5, and in the chimpanzee as 1 to 28·5; so that the corpus callosum, thus estimated in proportion to the cerebrum, is in the Bushwoman only *half as large* as in the European, and not much larger proportionally than in the chimpanzee. The anterior commissure (a) is also singularly small; the posterior commissure is very slender, whilst (probably an individual peculiarity only) there is no trace of the so-called soft commissure. On the whole, therefore, the system of transverse commissural fibres is defective; and as the size of the medulla oblongata, in proportion to the unusually narrow cerebrum, is larger even than in the European (so that the radiating system is probably not so much diminished), it would seem as if the relative deficiency of white substance within the hemispheres was owing in a great degree to the fewness of the transverse as well, perhaps, as of other commissural systems of fibres. I have elsewhere pointed out the same condition in the chimpanzee's brain, and it doubtless is associated, in the Bushwoman's brain, with its inferior bulk and less convoluted surface. The proportional size of the corpus callosum, thus considered, offers, I believe, a not inconvenient test of the relative perfection of any given normal brain of certain plan. Comparative anatomy supports this view. Of the longitudinal system of commissures, the fornix is thin, the tænia semicircularis slender, and the striæ longitudinales plainly visible."

"The cranial nerves generally appear small; the olfactory nerves, however, are well developed. The optic nerves, commissure, and tracks are small and flattened, even the nerves having an unusually thin oval section. The small size of the optic tracks and corpora quadrigemina is interesting in con-

nection with the defective development of the occipital lobes of the cerebrum, a part to which many of their fibres have been traced by Gratiolet."

The cerebellum was very well developed on the whole, and, as an organ, far more completely evolved than the cerebrum.

Of the brains of the two idiots which are described by the author, one was that of a female, about five feet high, who died of phthisis, aged forty-two; the other was that of a boy, thirty-nine and a half inches high, who died from spinal abscess, aged twelve. The weight of the recent brain of the female idiot, without its membranes, was 10 oz. 5 grs.; and the weight of that of the boy, with its membranes, $8\frac{1}{2}$ oz.; the respective weights of normal brains at the same ages being, for the female 42 oz., for the boy 44 oz.

In regard to general form, dimensions, and relative position of parts, it was found that, in the female, the cerebellum was far from being concealed by the cerebrum, but projected largely behind its posterior lobes, the relative preponderance of the cerebellum being a very striking feature. In fact, the encephalon resembled at first sight, in size and general form, that of the young chimpanzee, although a closer examination revealed great differences.

"The preceding description, and the tabulated measurements of the brains, given at the end of this paper, show that in the idiot woman the temporal regions manifest the greatest relative size, whilst the parietal, occipital, and frontal are very small; whereas in the chimpanzee's cerebrum the occipital lobes have a larger relative development; the frontal lobes stand next, whilst the temporo-parietal are defective.

"The cerebrum of the idiot boy, as seen from above, the only view of which we have an intracranial cast, differs from that of the idiot woman in being at once narrower and somewhat angular in its outlines. The frontal region is more pointed (indeed, singularly so), the occipital region flatter, and the parietal regions longer and more compressed. The widest part corresponds with the centres of the parietal regions, and is somewhat behind the middle of the mass. The ratio between the width and length of the cerebrum is 1 to 1.23; so that the idiot boy's cerebrum is longer, in proportion to its width, than the idiot woman's—not from any actual superiority as to length, but rather owing to a deficiency in width of the whole cerebrum. As in the idiot woman, the cerebellum is not covered by the cerebrum behind; but probably it was not so much exposed. In shape the idiot boy's brain is so long and narrow as not to be comparable with the ape's.

"In the idiot woman the forms of the convolutions are scarcely

traceable at any part of the intracranial cast, excepting some slight undulations about the frontal region. In the idiot boy they are remarkably distinct on the parietal regions, whilst the frontal and occipital regions are perfectly smooth. Gratiolet regards this marking of the cranium by the convolutions as a sign of inferiority or degradation. This would appear to be, to a certain extent, an individual character, as it is not noticeable in the idiot woman."

After a minute description of the fissures, lobes, and convolutions of these idiots' brains, and a systematic comparison between them and the normal brain, and between the two defective brains, and between them again and the brains of the higher apes, Mr. Marshall enunciates the following general conclusions, which, long as they are, we cannot forbear giving in his words :

"1. In the first place it is obvious that the idiots' cerebra are not merely diminutive brains possessing every convolution, both primary and secondary, proper to the perfect human cerebrum, each having its natural shape, proportion and position, though on a diminished scale ; but, on the contrary, that they are profoundly modified in their convolitional forms, which are not merely smaller in bulk, but are fewer in number, of simpler shape, and different in proportion and position, as compared with those of the perfect cerebrum.

"2. Nevertheless all the primary and connecting convolutions belonging to the perfect cerebrum are represented by definite corresponding parts in these brains, mostly by actual convolitional foldings of the cerebral substance of a comparatively more simple kind, but sometimes by scarcely convoluted, or even by entirely smooth though slightly elevated portions of the cerebral substance.

"3. The parts which can be easily detected as actual convolutions in the idiots' brains are the three frontal rows, the two ascending parietal convolutions, with the lobule of the posterior one, the supramarginal and bent convolutions, the external and internal temporal convolutions, the marginal and callosal convolutions on the inner surface, with the quadrilateral and occipital lobules, and all the connecting convolutions proper to the human cerebrum. The parts which are less easily distinguished are the orbital convolutions, and especially the three rows of occipital convolutions. The central lobe, or island of Reil, is distinguishable, as a distinct smooth eminence, in the idiot woman, but only as a smooth indistinctly elevated surface in the idiot boy. In neither does there exist such an expansion of the supramarginal convolution as would form a prominent supramarginal lobule, a part so characteristically human.

"On the whole, the temporal convolutions, in both brains, are the boldest and best marked; then the convolutions of the parietal lobes, especially in the idiot boy; next stand the connecting convolutions and frontal rows, and those of the inner surface; afterwards the orbital and occipital convolutions; and lastly the island of Reil.

"4. On contrasting the idiots' brains with one another, the convolutions generally are seen to be decidedly more developed in the idiot woman than in the idiot boy—the marked exception being in the parietal region of the latter, where the lobule of the posterior ascending parietal convolution, the supra-marginal convolution on the left side, the bent convolution, and the adjacent second external connecting convolution are more fully developed.

"5. Agreeably to the opinions already expressed by other anatomists in regard to similar examples, the condition of the cerebra in these two idiots is neither the result of atrophy, nor of a mere arrest of *growth*, but consists essentially in an imperfect evolution of the cerebral hemispheres or their parts, dependent on an arrest of *development* (*agénésie, asthénie-génie*) occurring at some stage or other of their metamorphosis from a simpler to a higher form.

"6. On comparing the condition of the cerebral convolutions of these brains with the representations of the brains of two *fœtuses* at about six and a half and seven months, published by Leuret and Gratiolet, it would appear that in both idiots the convolutions are more complex than in the former, but less so than in the latter *fœtus*. From this, one might hastily suppose that in both idiots the development of the convolutions, and indeed of the entire cerebra, had been arrested in the latter part of the seventh month of intra-uterine life; those of the idiot boy a little earlier than those of the idiot woman.

"But on further reflection such a supposition does not appear to be tenable, and it is not supported by facts. It necessarily assumes that, up to a certain period of development, the evolution of all the parts of the cerebrum had been normal in rate and in character; whereas, in the first place, there is nothing at present to show why that rate may not, in such cases as these, be more or less retarded, so that any given stage is attained at a much later period than usual, and the ultimate condition of development be reached perhaps some time after birth; and, in the second place, there is evidence in the brains themselves, of such a disproportionate development of parts as to prove that the normal character of the evolutionary changes has been profoundly disturbed at some period or other, by at least one *local*

departure from, or interference with, the regular mode and order of development.

"A comparison of the size of the cerebellum and cerebrum in the idiots' brains, and in the brain of a foetus at the seventh month, shows most strikingly that the development of the former organ had continued to progress long after the latter had experienced its final arrest; but, what is more essential to the present inquiry, even within the idiots' cerebra themselves there is proof that all the parts are not equally and normally developed.

"Fully to appreciate the importance of the diminutive size of the frontal lobes, we must take into account certain facts to be hereafter stated in detail, regarding the internal structure of the cerebral hemispheres. The corpora striata in the idiots' brains are very small; not merely absolutely, but also relatively to the size of the optic thalami, the ordinary proportions between these two ganglia being actually reversed, the former being usually much larger than the latter, whilst in the idiots' brains they are much smaller. Since in a series of normally developed foetuses the corpora striata, at all periods, form larger masses than the optic thalami, we have further evidence, within the idiots' brains themselves, of the fact already announced of an irregular and disproportionate development of their parts. There is, indeed, an obvious correspondence between the diminutive size of the corpora striata and that of the frontal lobes; whilst the relatively larger optic thalami are associated with a larger growth of the hinder portion, especially of the temporo-parietal regions.

"The conclusions which we would draw from the preceding facts are these:—First. Instead of the idiots' cerebra having been uniformly and normally developed up to a certain date—say the latter part of the seventh month—and having then been subjected to a general cessation of development, they have experienced an inequality or irregularity of evolution in certain of their parts. Secondly. Whilst all parts have been more or less arrested, the frontal and occipital lobes have suffered more than the temporal and parietal. Thirdly. Whilst both the large ganglia at the base of the cerebrum—those cores or nuclei of the cerebral hemispheres, the corpora striata and optic thalami—have participated in this disturbance of the ordinary course and degree of evolution, the corpora striata have been more especially involved. Fourthly. The original vice of formation, in all probability, affected these two pairs of ganglia primarily; and this entailed, as a necessary consequence, an interrupted, irregular, defective, and perhaps retarded evolution of the convolutions of the hemispheres themselves. Fifthly. The primitive starting-point of the future idiotic condition dates from a period far

earlier than that at which all further evolution ceases; and in fact, as regards the optic thalami and, especially, the corpora striata, probably from a very early period of development indeed. This conclusion is obviously more acceptable to the physiologist—because more consistent with the radical deficiency in cerebral power manifested by idiots—than the supposition that the idiotic state should be due to a sudden arrest of a previously normal development at some later period of foetal life. Sixthly. The anatomical connection which, by the comparison of these idiots' brains with healthy foetal brains, has been shown to exist—in human brains at least—between the development of the corpora striata and the frontal lobes, and the optic thalami and the temporal and the parietal lobes, has a considerable general interest, and probably has a physiological significance which may hereafter throw light on the functions of the convolutions of those several parts. Lastly. The deficiency in the corpora striata and the associated frontal lobes becomes particularly interesting when we reflect on the special connection of those ganglia with the anterior or motor columns of the cord, and on their probable intimate concern in the execution of voluntary movements—*i. e.* in the mechanical expression by the body of those numerous acts which are the outward exponents of that important psychological faculty commonly designated 'the will.' Now, it is the inadequate performance or entire abrogation of those acts, whether locomotive, manipulative, or articulate, which constitutes one of the most striking characteristics of the idiotic state.

"7. It is impossible, in the present state of our knowledge, to determine the interesting question whether some parts of the idiots' cerebra had undergone, after the general arrest of ordinary morphological changes, further local development, as the result of use or ordinary training.

"8. There are, however, certain evident grounds for inferring that, after the cessation in these cerebra of all further evolutionary changes, they experienced an increase of size, or a mere growth of their several parts. Thus the idiots' cerebra are considerably larger than foetal cerebra in which the convolutional development is at a similar stage; whilst the individual convolutions themselves, the same in number, are necessarily broader and deeper. Again, from Dr. Boyd's observations, it appears that in a certain number of foetuses prematurely born, with an average height of 14 inches for males and 13.5 for females, whose brains would about correspond with the idiots' degree of convolutional development, the average weight of the cerebrum in the former was 5.33 oz., and in the latter 4.42 oz.; whereas, as we have seen, the idiot boy's cerebrum weighed 5.85 oz., and the idiot woman's 7.63 oz. The greatest difference is in the case of the woman,

who lived to an adult age, whilst the boy, it must be remembered, died at the age of 12.

"9. It has been shown that the temporal region preponderates in the idiot woman, and the parietal in the idiot boy; the frontal lobe is also relatively a little larger in the woman. There can be no doubt also that the emotions, intelligence, and voluntary power of the woman were in advance of those of the boy; but at present it would be premature to attribute too much importance to these probably individual anatomical differences, or to endeavour to associate them with peculiarities of psychological endowment.

"10. On contrasting the cerebral convolutions of the two idiots' brains with those of a female and male idiot, each four years of age, represented by Leuret, there appears a very close and remarkable resemblance between them. There is the same paucity, simplicity, and breadth of the convolutions, the same deficiency in the frontal lobes, though in one of them—the second referred to in the foot-note—to a less degree. The details of the convolutions are also nearly similar; but in some slight particulars they are superior to those of the idiot woman, and especially so to those of the boy. For example, in both, the anterior ascending parietal convolution has passed beyond the stage of an intrusive convolution to that of an oblique smooth ridge of cerebral substance. There are also more numerous secondary sulci in most regions of the cerebrum, and the convolutions themselves are somewhat more tortuous.

"11. Lastly, on comparing the convolutions of the idiots' cerebra with those of the orang and chimpanzee, they appear in the human idiots to be fewer in number than in the apes, because, although the primary foldings correspond in each, they are individually less complex, broader, and smoother in the former than in the latter. In this respect the idiots' brains are even more simple than the brain of the gibbon, and approach that of the baboon (*Cynocephalus*) and sapajou (*Ateles*).

"As special and interesting results of this general simplicity of the primary convolutions, are the absence, as in the quadrumanous brains, of such a development of the supramarginal convolution as to constitute its so-called lobule, and the partial concealment of the upper external connecting convolution, as well as the imperfect development of the anterior ascending parietal convolution, and the extreme simplicity of the bent convolution. Of these, the non-development of a distinct supramarginal lobule is the most interesting defect, since it indicates the late appearance in the brain of a part whose presence is regarded by Gratiolet as peculiarly characteristic of man.

"On the other hand, the points of special difference between

the idiots' and the quadrumanous brains, both general and particular, are even more numerous. First, as a general difference, there is a remarkable want of symmetry even in these imperfectly developed cerebra, as if already preparations were being made to establish that higher and almost exclusively human character; this point has been so frequently exemplified in the previous descriptions that we may refer to them for abundant illustration of it. Secondly, the special differences, which likewise exhibit the decidedly human character, are the superficial position of all four of the external connecting convolutions; the consequent speedy interruption of the external perpendicular fissure and complete obliteration of its posterior border or operculum; the concealed position of the lower internal connecting convolution, and the absence of the upper one; and lastly, the great breadth of the connecting ridge which joins the callosal and uncinate convolutions.

"Although, therefore, so defective in developmental detail, these microcephalic cerebra are still human, and differ as much from the ape's cerebrum, or constitute as little an intermediate step towards it, as any other bodily defect in man is found to differ from a truly quadrumanous form, or manifest a serial approximation to it. Just as in a case of webbed human fingers, the digits are still human and not gorilla-like, and just as in the deformity named talipes valgus, though the foot is inverted and the weight of the body is supported on its outward border, still the member is human and not ape-like, so these brains, though simplified by defect, possess characteristics which distinguish them as imperfectly human yet not quadrumanous. The community of plan observable in the brains of all the primates, including man himself, necessitates a general conformity to that plan, even in these defective human brains; but the special marks of human divergence from that plan have already been set upon them at some very early, probably at the earliest moment of their development."

The cerebellum was very defective in both idiots, but especially in the idiot boy, although the organ in him was much larger than in the woman. The imperfect gait and feeble power of control over the muscles generally, so common in idiocy, were noticeable in both cases; and this, as Mr. Marshall observes, might appear explicable, on the hypothesis that the cerebellum is concerned in co-ordinating muscular movements, by the obvious deficiency in that organ; but, on the other hand, the fact that the cerebellum was larger in the idiot boy—who could neither articulate, handle anything, nor walk—is contradictory. One of the cerebellar commissural systems of fibres was, however, much more deficient in him than in the idiot woman. In both,

the laminæ of the cerebellum were not only fewer in number, but shorter and narrower than in the healthy cerebellum.

Since the paper was written the author has, as he states in a postscript, inspected two idiots' brains in the museum of St. Bartholomew's Hospital, and examined various wax models and drawings in Guy's Hospital Museum. The broad results he thus announces:

"The condition of the convolutions in these models confirms the history above given of the conversion of the intrusive convolution into the anterior ascending parietal; for the change is traceable through a certain number of the foetal brains. It also supports the views expressed as to the early arrest of the evolution of the corpora striata, and of the special effect of this on the development of the frontal lobes; for, with certain fluctuations, the corpora striata, where shown in the models, are always larger than the optic thalami; and the proportions of the frontal to the hinder regions of the cerebrum, as marked off by the fissures of Rolando, vary, from the first appearance of this fissure to the full term of development, between the ratios of 37 to 63 and 58 to 42. Lastly, these models show that idiot brains must grow a little after they have ceased to be further evolved; for the convolutions, and indeed the cerebral hemispheres themselves, are broader and larger in the idiot brains than in the models of brains of equally forward convolutional development. It is certainly true that, taking the four idiots' brains, viz., the two hereinbefore described and the two in the museum at St. Bartholomew's, their respective sizes and their degrees of evolution correspond; but this does not disprove the occurrence of a growth in them after the cessation of development, an event shown to occur on other grounds.

"The model and drawings of the idiot's brain at Guy's also confirm all our previous notions; and indeed it may be concluded that the idiotic condition is produced in all cases by conformable influences, affecting the cerebrum in slightly different degrees in different examples."

Time and Space: a Metaphysical Essay. By SHADWORTH H. HODGSON. Longman & Co., 1865, pp. 587.

It is not without considerable interest and some surprise that we observe such a vigorous revival of metaphysical thought as has been recently manifest in England; the interest lying in the question as to what may be the correct interpretation of

the new-born activity ; and the surprise being caused by the wonderful restoration to life of that which had been considered and confidently pronounced dead, by many not incompetent judges. Whether it be that the impulse of that great wave of metaphysical philosophy which through Hegel, Schelling, and Fichte reached such a height in Germany, and has since been broken there into endless foam, has at last been felt in this country ; or whether it be that the activity is only the semblance of vigour, and actually a sort of convulsive struggle forerunning dissolution, we cannot undertake to say ; the existence of an unusual interest in metaphysics, and the display of remarkable ability by its latest disciples, can nowise be disputed. One may read with pleasure and profit what some of them have written, though having no sympathy whatever with their kind of thought. We have many times made our confession of no faith in the various resolutions that have been propounded of the ever-recurring sapless problems of metaphysics ; these appearing to us to owe their artificial vitality mainly to the want of definiteness of meaning in the words used by the same metaphysician, and to the want of agreement in the meaning of words used by different metaphysicians. A precise and common philosophical phraseology once agreed upon, there would be an end of disputes and perhaps an end of metaphysics. That we hold this heretical opinion, must at any rate be our excuse for not again taking the pains to give a thorough critical review of a metaphysical book. Such a review, honestly made, is about as hard a task as any one can well undertake, and the profit of it by no means repays the labour. At the outset it is requisite to learn exactly the author's philosophical phraseology, and by drifting as far as possible into his artificial line of thought, to perpetrate a sort of temporary mental self-annihilation. Having once done this effectually one may perhaps go on swimmingly to the end of the book, finding many admirable things in it, and then wake up to our ordinary manner of thought and the real work of life, allowing the unassimilated thought to drop entirely out of the current of our mental activity, and forgetting what manner of book it was. Or, as we peruse with critical eye, we may strive to preserve our mental individuality, and at the same time to get some understanding of the author's thought, more fully expounding what we conceive it to be on some occasions, and on others criticising and confuting ; and finally, producing a review which is probably a strange patchwork of unsympathetic ideas, and which has cost us much labour and required as much knowledge as would have served for an original work. It stands to reason that no one will care to go through such an unremunerative toil, who is not either very much in-

terested in the subject of which the book treats, or personally interested in the author's literary fortunes. And that must be the excuse for not attempting now anything like a critical review of a book which is well deserving of study by those who are interested in the questions of which it treats. We cannot be persuaded that metaphysical investigation is anything more than a sort of intellectual gymnastics, which may be a means of good training, and in which some men become by practice marvellously skilful, but which leads to no result of general and permanent worth. And we are profoundly convinced that if those who ardently pursue metaphysical problems were to make themselves actually familiar with human nature in all its forms; if they were honestly to study the diversified phenomena of mind as these present themselves in the animals, in idiots, in the insane, and in the sane who are not philosophers; and if they were to make, as they ought to do, a complete knowledge of physiological science an essential pre-requisite to all speculations concerning mind,—then they would themselves abandon all thought of meddling seriously with the vexatious questions which from the beginning of the world have been, and have been seemingly very much what they are now. It is truly remarkable how different writers on these abstruse matters continue to repeat one another so much, and yet no two of them to agree. Wonderfully hopeful, each new comer aspires to do by the same method what the great men who have preceded him have not done, and the long line of sanguine aspirants bids fair “to stretch out to the crack of doom.” Now what we have over and over again suggested, and what we take leave to suggest once more, is, that neither new men nor new intellectual gymnastics are required; but what is needed is a *new method*. Then, perhaps, might the long barren places be changed into fruitful fields, and wisdom be at last justified of her children.

Without doubt, the author of ‘Time and Space’ would deem the opinion above expressed as one-sided, erroneous, and, after what he has said, very unreasonable; he would probably consider it as useless to appeal to a judgment so blinded as to appeal on a question of colour to one who was colour-blind. The question is not one which argument will settle; but in due time the irreversible judgment will be passed by the onward march of knowledge. Meanwhile, why fret and fume? Let each side steadily go on working, as may seem to it best, and nowise trouble too much about consciously determining or precipitating a result which in any case will surely come. If it be true, as it unquestionably is true, that metaphysical views of natural phenomena have by slow degrees been abandoned in every department of nature except that of mental phenomena

and the point of junction between them and the rest of nature, then those who believe in the close harmony, connection, and actual continuity of events in nature may confidently hold that no one will be able to set an arbitrary line anywhere, and to say to the current of progress, "Hitherto shalt thou come, and no further. Here let thy proud waves be stayed."

Mr. Hodgson clearly apprehends the nature of the problem with which he has to deal, and endeavours to define what he conceives to be the scope of metaphysics. Though his book is entitled 'Time and Space,' it treats of a great deal more than the title might seem to imply; for it treats of many of the old familiar questions arising out of the objects and events in time and space which have so long puzzled minds prone to metaphysical abstraction. The author brings a great deal of learning to bear on them, quoting with easy familiarity the great philosophers of all lands; but it must be confessed that, by reason apparently of considerable diffuseness and vagueness of thought, one is apt to remain with no very distinct impression on the mind at the end of a chapter, and that some of the learning has rather a second-hand look. To those who affect metaphysical enquiries the book will doubtless be interesting and instructive, while many reflections in it will be found suggestive by those who may not agree with its general spirit. The style is clear, the printing and paper are excellent, and the book is handsomely brought out. The matter of it with which we sympathise most, is the epilogue, which follows:

"Turpe est difficile, habere nugos,
Et stultus labor est ineptiarum!"

It is so. And I remark only, that if the endeavour to analyse the world is a trifle, it is because the world is such. The sum of things can have no second intention, nor can it be characterised by any trait that is not included in itself. Some things are sweet, but what is our sense which perceives them; some things are good, but what is our conscience which judges them; some things are true, but what is our intellect which argues them; some things are deep, but what is our reason which fathoms them? Every one who thinks deeply must have reflected that if the purposes and results of man's practice are variety, so also must be those of his speculation. Goethë said that there was no refuge from virtues that were not our own, but in loving them; and Ecclesiastes that there was none from the vanity of life but in fearing and obeying God. So also from the vanity of speculation, there is no refuge but in acquiescing in its relative nature, and accepting truth for what it is.

PART III.—QUARTERLY REPORT ON THE PROGRESS OF PSYCHOLOGICAL MEDICINE.

I.—*Foreign Psychological Literature.*

By J. T. ARLIDGE, A.B. and M.B. Lond., M.R.C.P. Lond., &c.

American Journal of Insanity.—Since the last notice of this excellent Journal in January, 1865, five additional quarterly numbers have been received continuing the work until October, 1865. The original articles are on—‘Acute Delirium in 1845 and 1860;’ ‘Legislation on Lunacy,’ by Dr. J. Pargot; ‘Case of Pellagra of the Insane,’ by Dr. John P. Gray; ‘Cordelia,’ by Dr. A. O. Kellogg; ‘German Psychiatrie,’ by Dr. W. Griesinger; ‘Homicide, Plea Insanity,’ by Dr. John P. Gray; ‘The Imagination in the Production of Disease,’ by Dr. E. Bouchut; ‘The Social Relations of the Insane in Civil and Criminal Cases,’ by Dr. J. Parigot; and on the ‘Psychological Analysis of Courage,’ by M. A. Castle. The new volume (commencing July), volume xxii, contains articles on—‘Feigned Insanity, Motives, Special Tests,’ by Dr. W. S. Chipley; ‘The Case of Bernard Cangle,’ by Dr. Ray; ‘Nineteenth Annual Meeting of the Association of Medical Superintendents of American Institutions for the Insane;’ ‘Memoranda on Anæsthetics,’ by Dr. Chipley; and on ‘The Physiology of the Brain and Nervous System,’ by Dr. Brown-Sequard. To the contents of the July number of volume xxii is to be added that for the October number (1865), including ‘Tests of Insanity,’ by Dr. J. E. Tyler; ‘Pathological-Anatomical Manifestations of Insanity,’ translated by Dr. Workman; and the ‘Willard Asylum and Provision for the Insane.’

Besides the foregoing original articles and translations from foreign authors, there are the usual Bibliographical notices and a summary, made up of notes from various works and periodicals on subjects cognate to the purposes of this Journal of Insanity.

The paper on ‘Acute Delirium’ consists of a review of the opinions held on that subject by MM. Brierre de Boismont and Calmeil. The object of its writer is to show that acute delirium is a distinct affection, though one generally confounded with meningitis or phrenitis on the one side and with mania on the other. M. de Boismont regarded it as a simple neurosis

or functional disorder ; whereas, Calmeil asserts it to be an acute periencephalitis, in harmony with his views respecting the nature of mental disorders in general as dependent upon inflammatory lesions of the encephalon.

However, it seems to us that in the periencephalitis of Calmeil are included many phases of mental derangement besides the one designated under the name of "acute delirium" by Dr. de Boismont, and differing widely from it, as, for instance, the acute maniacal stage of general paralysis.

In "acute delirium," the countenance indicates the high mental disturbance, which is further displayed in the rush of incoherent thoughts and words, the noisy and violent character of the excitement, the exaggeration of muscular activity, the destructiveness, and in the frequent violent opposition to taking food, but more especially drink. A remarkable peculiarity is the tendency to temporary remissions of its violence. These lucid intervals are sometimes of considerable duration, lasting several hours.

The disease presents two well-defined stages or periods—one of excitement, the other of collapse. The former varies greatly in duration ; sometimes continuing to the last hours of existence, at others ceasing almost at the onset. Usually, however, it declines, and is gradually replaced by the stage of collapse. This last, again, is sometimes very brief, appearing only in the last moments of life ; at other times it lasts a considerable time. Muscular spasm, local or general, is not uncommon. The refusal of liquids, so common in acute delirium, seems to depend upon spasms of the œsophagus. Paralysis is a very rare symptom. Disordered sensibility is shown in excited action and in the hallucinations and illusions ; but it is seen to diminish as the disorder advances, and finally to disappear without being followed by the oppression and stupor observed in the last stages of meningitis.

Repugnance to liquids occurs in almost all cases. The pulse is frequent, and either full or soft in the first stage, whilst it is weak and grows thready in the second. The skin is generally hot, dry, and harsh at first, but finally a cold sweat bedews it. Emaciation proceeds rapidly ; the secretions are unhealthy, and an abundant tenacious mucus collects about the fauces ; the breath is very offensive, and the tongue inclines to dryness and to be coated with sordes. Sleep is absent, or replaced by a sort of stupor or lethargy ; when calm sleep returns for some hours, it may be regarded as an indication of recovery.

That acute delirium is not identical with, or a form of insanity, is shown by the suddenness of the attack, the general aspect of the case, and character of the symptoms. The simple form generally terminates favorably after a few days or hours

existence. But it may be complicated with an inflammatory condition of the brain or with mania, and then its diagnosis is difficult. Its most fatal form is that of hydrophobic insanity, or phrenetic hydrophobic delirium. In nine cases of this form, seven proved fatal.

Patients whose attack is owing to the striking in of an exanthem or of rheumatism, or to derangement of the digestive or biliary functions commonly recover. A fatal sign noticed in the hydrophobic delirium is a purulent discharge appearing in the angles of the eyes.

Abercrombie has given an excellent sketch of acute delirium (at least of a principal variety), under the heading of "A dangerous Modification of the Disease (*i.e.* meningitis), which shows only Increased Vascularity," in his well-known book on 'Diseases of the Brain,' at p. 64 (2nd ed. 8vo); in which he refers to it "as apt to be mistaken for mania, or, in females, for a modification of hysteria," and therefore to have its dangerous character overlooked.

Other writers have called attention to the temporary acute delirium consequent upon previous severe bodily disease, and apparently referrible to exhaustion as a cause; and it is a still debateable question how far the acute delirium seen in rheumatic fever, particularly when the rheumatic affection of the joints recedes, is assignable to meningeal inflammation or to the action of the rheumatic poison on the cerebral matter, or to induced anæmia. Then, again, we are familiar with acute delirium seen now and then in pleurisy, in pericarditis and pneumonia, in erysipelas and fevers, and as a consequence of surgical operations, of deprivation of stimulants, or, indeed, of necessary food and drink.

A review of delirium in relation to its etiology shows, indeed, an immense diversity in kind; but we are much in the dark as to the actual condition of the brain associated therewith; and in numerous cases it becomes hard, or impossible, to draw the line between acute delirium and mania on the one hand, and between it and meningitis on the other. Some writers have described a form of mania under the name of "mania transitoria," which appears identical with the typical form of acute delirium; whilst the hydrophobic variety has, doubtless, largely figured in essays on hydrophobia as exemplifying this malady.

Legislation on Lunacy is the subject of two papers by Dr. Parigot. He expresses himself dissatisfied in several particulars with Dr. Ray's report and scheme of legislation, an abstract of which appeared in our notice of American psychological literature in the number of this Journal for January, 1865; but he

does not discuss the question of legislative interference in a concise, practical form, but in a diffuse general manner from which little or nothing can be culled of interest to our readers. Doubtless, however, the papers will possess a higher interest for readers in the United States, where the lunacy laws are more imperfect and vary much in different States, and the interests of the insane are far from being so well protected as they are in Great Britain.

Case of Pellagra of the Insane.—Dr. John P. Gray recounts the history of a case he presumes to have been one of pellagra; but, in our opinion, this identification of its nature is doubtful. The history is that of a man thirty-one years of age, who, after some ill-defined bodily ailments, following upon an attack of rheumatic fever, falls into a state of “melancholia,” haunted by fears of persecution and various suspicions leading him to wander about; and on one occasion to hide in a wood for ten days. It was after this occurrence, and when the prolonged want of food had produced very much exhaustion and emaciation that he was taken to the asylum. On admission his bowels were costive, but soon after diarrhœa set in, and simultaneously with this event a scaly eruption, “analogous to ichthyosis,” was discovered extending over the hands, fore-arms, and the feet and legs. By and by, the extremities began to swell, the skin “became of a dark purple colour, glistening in appearance and parchment-like in feeling. In other places vesicles formed, which, when opened, exuded a yellowish-white serum.” At the same time, the face began to swell and deepened in hue; the conjunctivæ were suffused, and intense pain affected the back of the head, attributed by the patient to enemies driving red-hot nails into his head. Following this swelling, squamæ, in successive crops, formed on the face and spread also more largely over the extremities, accompanied by intense itching and burning, and by stiffening of the joints, due probably to swelling and infiltration of the skin and areolar tissue. He was treated with Fowler’s solution, and gradually improved; the squamæ falling away, but leaving still the skin of the hands and feet of a dark purple colour. From a foot-note we learn that the improvement has not continued, but that after the lapse of nearly a year squamæ have reappeared on the extremities, with emaciation and the hypochondriacal state become aggravated.

From what we have seen of pellagra in Italy, and from the descriptions of the disease given by authors, we are indisposed to regard the foregoing case as a genuine instance of the malady. However, it doubtless resembled pellagra in the main features of its etiology, by being the consequence of insufficient

and improper nourishment, and of undue exposure to the weather. A cachectic state, followed by skin-eruption, was the result; and this superadded to the mental disturbance, which had for a long time continued prior to the cutaneous affection. Experience has shown oftentimes on an extensive scale, the production of scaly and other eruptions on the skin in company with preformed cachexia, and even mental disturbance, as the result of improper food; but these maladies so engendered, though etiologically allied to pellagra, could not be referred to as examples of that disease. For instance, Rayer has pointed out the relation between pellagra and the morbid consequences of eating spurred rye, and between that disease and the epidemic prevailing in Paris in 1828, and then described as acrodynia.

The Social Relations of the Insane in Civil and Criminal cases, is the subject of a well-written essay by Dr. Parigot, which presents especial points of interest in the notices he gives of the practice and rules of the courts of law on the Continent, touching the relations of the insane in question. We append some important extracts, and extract the propositions he advances.

"French juries have, besides their power as judges of facts, that of mitigating the punishment by adding to their verdict, 'that there exists in the case extenuating circumstances.' It happens often that such declaration implies a contradiction with their verdict. The term 'dementia,' in French legislation, means insanity in general, and the only point is, whether the perpetrator was insane or not at the moment of the deed. Nevertheless, the law punishes a crime perpetrated during a lucid interval, or during the intermittence of attacks of mental derangement."

"The general principle of the French code of laws concerning crime is, that where there is no intention of doing harm there is no criminality."

"In Belgium, France, and the Rhenish provinces, which have the same code of laws, the question whether an accused is insane or not, must be submitted to experts. Sufficient time is allowed for that purpose, and the person to be examined is ordinarily sent to an asylum where experts have their residence. This procedure is much preferable to our mode of taking the opinion of physicians (some having no experience in psychopathy) in the court, and without a written report made by them on the special case. . . . The courts of appeal of Belgium, acting in these cases as our American grand juries do, nominate the experts, and order the examination to take place in one of the asylums. The report being made by the experts, and approved by the court, the accused is either committed for trial

before a court of assize, or sent to an asylum, to be kept until cured. In case of recovery the court pronounces that he may be set at liberty. When the suspected accused, who pleads insanity, is sent before the court of assize and a jury, the president of the court has power to put to the jury the question whether the accused was insane or not at the time he committed the crime. If the president of the court does not put the sanity in doubt, it has often been seen that the jury acquitted, because the verdict of 'guilty' implies sanity, and that 'not guilty' declares the accused irresponsible. . . . A person under twenty-one years of age is an infant, and at the time of his coming of age he may be interdicted, if his reason has not been developed, or if, after possessing his faculties, he should have lost them. Any weak-minded person may be subjected by the court to a judiciary counsel over him, in order to give him assistance in all the public acts of civil life. The French law goes still farther, and enacts, 'that a person of age who is in an habitual state of imbecility, dementia, or furor, must be interdicted, even when that mental state presents lucid intervals.' The word *habitual* means here that the person must be ordinarily in a state permitting no control of actions. Of course, errors or physiological delusions, bad morals, or disorderly conduct, are no sufficient cause for interdiction, since in these cases the conscience is the supreme judge of the sane individual. Therefore, in case of interdiction, the mental affection must be well characterised by experts. Article 488 of the Code refuses all civil rights to the interdicted. . . . The French civil code recognises that mental incapacity may also annul certain acts . . . to make a donation or to execute a will, there must be a sane mind. . . . To cancel or annul the validity of such acts demonstrative proofs of insanity must be given by the plaintiff. Partial insanity, if such a thing could exist, would not be sufficient to make a will void, if the act itself was proof of the sanity of the testator when he made it."

In Prussia, the following principles obtain. Juries alone decide questions of moral responsibility, and a person not being in possession of the faculty of acting freely is not amenable to the law. Those who are completely deprived of the use of their reason are in law termed furious, or demented; and those who have lost the faculty of reflecting on the consequences of their actions are called imbeciles. To prove a suspected person furious, demented, or imbecile, a medical investigation must be carried out in the presence of a judge; and thus the joint action of a jurist and physician is secured in arriving at a decision affecting the liberty and civil rights of an individual. Examinations for the purpose of interdicting, or for relieving a patient

from interdiction, must take place in the presence of a judge in court, and of a guardian and the family. "In criminal courts judges are ordered by law to study the mental dispositions of the accused, and if they find indications of insanity or mental weakness, they must conduct the examination with the assistance of experts." If in the course of proceedings to interdict a patient a disagreement arise between the family and the guardian, the unanimity of the experts carries the decision. If the two experts disagree, the judge calls in a third. "At last, their written opinion, with its motives, founded on science, may be sent for ulterior adjudication to a superior court."

Dr. Parigot gives credit to Prussian law and to its administration for the weight attached to the scientific evidence of competent medical men; and contrasts this deference to medical opinion in Prussia with what too often happens in French as well as in English law courts, where such opinion is contemptuously treated. At the same time, he considers that medical men have in a great measure to thank themselves for this state of things, by reason of their ill-judged meddling in pure legal questions. Moreover, the due appreciation of medical opinion in Prussia follows from the pains taken in forming it. Physicians specially versed in insanity are bound to make a conscientious study of the cases submitted to them. They must visit repeatedly the accused parties, have conferences with the members of their families, and with their usual medical attendants; and from the knowledge thus obtained, present a provisional opinion, accompanied by a detailed written report of the whole investigation, recording conversations held, &c.

Before presenting the summary of principles for lunacy regulation Dr. Parigot has a thrust at Dr. Bucknill's arguments and conclusion in the case of the murderer Buranelli, to which we would call the attention of this latter physician. The propositions put forward by Dr. Parigot are as follows:

"1. A case of insanity must be considered under three different points of view, to bear on all its social relations—

"*a. Medically*, implying the possibility of a medical diagnostic by physical and mental symptoms.

"*b. Legally*, as presenting the question of responsibility, mental capacity, and its civil and criminal consequences, which question belongs exclusively to judges and juries.

"*c. Administratively*, as whether or not the insane person must be isolated, his property taken from him; or that he be placed under guardianship, as an infant.

"2. The liberty of a person being insane, or suspected of it, can only be broken upon or infringed under the following circumstances—

"a. When there is actual furor, or raving insanity.

"b. On the warrant of a judge or court, with the sworn affidavits of two physicians. This document, to be legally valuable, should contain both the mental and corporeal symptoms of the patient. These affidavits must not have more than ten days of date before the isolation.

"3. No private isolation of insane patients can be permitted, even in their own house or that of their families, without the license of judges or courts of the district. Sufficient security for the moral and and material benefit of the isolated persons must be afforded.

"4. During the first five days of the isolation of insane patients, either in their own house or in a public or private asylum, an official statement, signed by the physician, will be made each day, and sent to the clerk of the court of the district or county.

"5. In each case of insanity, its history, symptoms, diagnosis, and treatment shall be reported in a special case-book, and signed by the physician.

"6. In cases of recovery from insanity or imbecility it is the duty of the physician to record it instantly in the case-book, and give notice of it to the court or judge who gave the warrant, and to the family of the patient.

"7. If the patient is only convalescent, the medical officer may send him home for trial, and trust him, under certain conditions, determined in a written document, to the care of his friends.

"8. All public or private asylums, or any physician keeping even one insane boarder in his family, must be legally authorised to receive such patient or patients as boarder or boarders.

"9. All public or private asylums, or physicians keeping even one insane boarder are placed under the immediate inspection and supervision of Commissioners in Lunacy. The insane kept by their family must be submitted to the same rule.

"10. All insane poor to be attended to at the expense of the State.

"11. For each insane person in good circumstances the surrogate shall order and direct that his estate or property, or the proceeds thereof, be employed for the welfare and recovery of the patient.

"12. No letters or written documents emanating from isolated patients and directed to public authorities shall be stopped.

"13. A law will determine the functions of the Board of Lunacy as a judiciary court."

For the most part these propositions are clearly based upon the enactments for regulating asylums and protecting the insane in force at the present time in this country. Where they depart from this basis—in some instances at least—they are question-

able improvements, and would be of difficult application in practice. The jurisdiction of the Lunacy Board proposed appears very limited ; most of its functions being assigned to the officials of common law courts, who could, in fact, not be charged with their performance.

Feigned Insanity—Motives—Special Tests—is the subject of a dissertation by Dr. Chipley, read, in the first instance, before the Association of Medical Superintendents of American Institutions for the Insane, in 1865. He first reviews the various motives which have led persons to feign insanity, illustrating his sketch by notices of historic characters, and of cases recorded by various writers. In speaking of the plea of insanity in criminal cases he expresses his opinion that too much stress has been laid on the discovery that motives for simulation existed ; and he fears “that judgment has been rendered in some cases with little other data to justify it.”

“It has been held that in cases of insanity suspected to be feigned a development of the probable motives of the offender is the first consideration, and where these appear strongly to favour such an attempt they must have considerable weight, and *vice versa*. This principle has been laid down broadly by recognised authority, but I do not think it is correct. The discovery of the existence of motives which may be supposed sufficient to induce an attempt at simulation should have no other influence than to authorise suspicion, inciting to a close scrutiny and a more thorough, cautious, and energetic investigation into all the antecedents and present condition of the suspected person. Surely the existence of such motives should have no weight of itself in determining whether the insanity be real or feigned. Instead of being the first consideration it ought to be the last, and should have no weight whatever until the dissembler has been exposed and his deceit unveiled by other means. When a great crime has been committed, it would be far more humane, and quite as consonant with justice and reason to infer the existence of insanity than to deduce from the magnitude of the offence and the strength of motive simulation on the part of the accused. The inference of guilt from such premises has laid the foundation for horrible cruelties, practised on real as well as pretended maniacs.”

Further on, Dr. Chipley writes :

“In every case of alleged insanity, whether there be motives for feigning or not, it is a sound principle to assume that the individual is of sound mind until the contrary is proved. Sanity is the normal state of man, and insanity the exception, and the latter cannot be allowed to exist without satisfactory evidence.”

The rough and ready tests of insanity resorted to in a past generation are rightly rejected by Dr. Chipley, and a thorough examination of each individual case of presumed madness advocated as the only legitimate means of diagnosis.

The object of his paper "is to inculcate that diagnosis as applied to insanity is a science founded on knowledge and observation, and not a mere art; that in making a diagnosis we have no rules particularly applicable to cases suspected of feigning; that in no case are we authorised to resort to unusual or cruel appliances; and that potent remedies which may cure are not reliable tests of the mental condition of the subject."

The Case of Bernard Cangle; by Dr. J. Ray.—This was a case of murder perpetrated in the North of Ireland in January, 1864. Cangle, the murderer, was found guilty and executed. Dr. Ray, in strong language, says that this case "adds another to the long list on record which have disgraced the administration of the criminal law in the British dominions. This is strong language, certainly; but what can deserve it more than that spirit which systematically repels the light of science and allows an issue of life or death to be determined by a metaphysical dogma," such as "that delusion is not a valid defence for a criminal act, unless the act is amply warranted by the circumstances, supposing the notion that prompted it to have been really true, instead of a delusion."

These and other very decided criticisms follow upon the conviction arrived at by Dr. Ray, that Cangle was insane at the time of committing the murder. To arrive at this conviction he examines the circumstances of the case as recorded in the 'Belfast Journal' of March 4th, 1864, and given in evidence by the wife of Reilly the murdered man. These circumstances in brief are, that Cangle had been in the service of Reilly, a small farmer and pretty well off, some ten years previously, and had whilst so lost a hand by the bite of an ass belonging to the latter. After an absence of ten years from the district in which Reilly resided, Cangle suddenly appears at the house of the latter, and recalls himself to Reilly's mind, by remarking, "Do you not know Cangle, that the ass took the hand off?" He is welcomed to the cottage, hospitably entertained, and lodged for the night in company with a servant lad of Reilly's. Some time after one in the morning Reilly and his wife were aroused by a noise of some one overhead moving about; the wife called to the boy, supposing it was he, when Cangle answered, "It is not James, Mrs. Reilly, it is me." From the voice, the wife thought Cangle was standing at the room door, which was not locked, and proceeded to ask why he could not sleep. He said

he saw flashes of fire through the window. There was no window in the loft (where he was lodged). Any person in the loft could see the kitchen window. Any person in bed could see the light on the floor, but not the window. Reilly said it was the moonlight, and got up with only his night-shirt on, and went out of the door to go into the kitchen, and presently, in about a minute, the wife heard him shout, "I am murdered." Thereupon she went out and saw Cangle standing beside her husband, who was at the back of the kitchen door, standing. On her appearing Cangle stabbed her several times with a knife, and then went out of the house, shutting the door after him, and proceeded to the nearest police station and gave himself up, saying he had stabbed Reilly with a clasp-knife, which he had thrown into a bog. After the murderer went out, Reilly went towards the bedroom door, but almost directly fell to the ground, the blood spurting out from his wound with a noise, and died at three o'clock.

"It was stated, that shortly before the homicide, Cangle had been in prison, but for what cause, or how long was not stated. When asked by the Court why sentence of death should not be pronounced upon him, he replied, that "He was unconscious of the act."

"The counsel for the Crown, in referring to the motives for the act, suggested that he might have been actuated by a feeling of revenge on account of the mutilation he had suffered while in Reilly's service, or that his intention was to get possession of Reilly's money. It was not pretended, however, that either of these suggestions was supported by one tittle of evidence. The counsel for the prisoner rested his defence on the plea of insanity. No medical expert testified; but the surgeon who was called to the Reilly's was asked some questions respecting insanity. The Court laid down the rule of law according to one of the oldest patterns, viz.: If the prisoner did not understand the nature of the act, or, if he understood it, did not know it was wrong, then he is not responsible for the act. The verdict of guilty was approved by the Court, who seemed to have been much scandalised by the pretence of insanity."

In Dr. Ray's opinion all this was very monstrous and wrong.

"The act in question (writes Dr. Ray) was prompted, of course, either by some rational motive of interest or passion, or by an insane impulse; and although we are obliged to found our conclusions upon a very meagre account of the case, yet we can scarcely doubt their correctness."

"The counsel for the Crown did not pretend to assign a motive for the act, for he was well aware that the circumstances attending it absolutely forbid it. Whoever heard of a man

arising in the night for the purpose of robbing or murdering his host, and walking so heavily as to wake him up, and calmly speaking to him as he approached the door? It is impossible to believe that any one in his senses would proceed to execute such a purpose in such a manner; and the absurdity of the notion is heightened by the fact that the person, after accomplishing his end, straightway goes to the police and tells them what he has done. The annals of crime, we venture to say, furnish no parallel to such a case. If his purpose were to kill, he scarcely accomplishes it; and if it were to rob, he leaves the house without even making the first attempt."

"The only other theory on which the prisoner's conduct can be explained is that of insanity. The indications of this disease, it must be admitted, were few and indecisive, but this is just what might be expected in the form of mental disease supposed to have existed here. It must have been a paroxysm of transitory mania, suddenly beginning and as suddenly ending, after the briefest possible duration. The grounds on which we must rest our belief that Cangle's was a case of transitory mania, apart from the absence of all rational motive, are his own declarations that, at the moment, he saw flashes of fire, and that he was unconscious of the act. This statement about the flashes of fire does not look like one made up for the occasion. Such a notion would not be likely to occur to a person of his grade of culture, and the perception which it implied has been often noticed in abnormal movements of the cerebral system. The simulation of such a trait implies more knowledge of disease, and a nicer art than can be fairly attributed to the prisoner. Indeed there was no need of simulation, at that moment, certainly. He had only to get down quietly into the room of his hosts, and either rob them, or inflict the fatal wound while they were yet sleeping, and hurry away before being recognised."

"It cannot be, as he declared at the trial, that he was 'unconscious' of what he was doing, using the term in its ordinary signification, because after the homicide he told the police precisely what he had done. He probably meant to say what multitudes of the insane have said before, under similar circumstances, that he did not know why he should have done such a thing."

"There can scarcely be a reasonable doubt that Cangle committed the act in a short and sudden paroxysm of mania, and under an impulse that he could neither understand nor restrain. . . . The occurrence of the homicide shortly after going to bed, and, probably, going to sleep, would naturally raise a suspicion that Cangle was in a state of somnolentia, or

sleep-drunkenness, as the Germans call it, when the person suddenly awakes while dreaming of being assaulted or threatened in some frightful manner, some minutes elapsing before he fully comes to himself. In this state of mental confusion and alarm he mistakes the first person who comes within reach for his imaginary foe, and attacks him with whatever weapon comes to hand." This, however, Dr. Ray only puts forward as a rather probable occurrence in Cangle's case, but he is conscious of the absence of all testimony from the culprit or others in favour of it.

At the same time he is much scandalised at the absence of an expert at the trial to testify to the prisoner's mental condition, and to enlighten the court and jury respecting the nature of transitory mania, and contrasts this neglect with the extraordinary measures resorted to in the investigation of Townley's case. The inference drawn reflects very harshly upon the administrators of the law in England, viz. : "The difference between these two cases was, that one had friends able and willing to obtain for him every possible privilege, while the latter had none. Had Cangle been subjected to the same sort of inquisition as Townley was, who can suppose his fate would not have been averted? The law says that when insanity is pleaded in defence of crime it must be proved ; but it ignores the fact that the party, if really insane, is necessarily incompetent to prove it, and, if poor and friendless, is unable to procure the assistance of others to the fullest extent. Are we not warranted by the united voices of humanity and science in claiming as a right, not as a favour to be purchased by wealth or influence, that when reasonable doubts are raised respecting the sanity of the prisoner in a criminal suit, the law shall provide for a satisfactory inquisition into his mental condition?"

This critical review of the above case of murder was read at the meeting of the superintendents of American asylums last year, and gave rise to considerable discussion. This discussion would however not be so palatable to Dr. Ray, since many members dissented from the views he so dogmatically and somewhat petulantly propounded, and dreaded to popularise the hypothesis of sudden impulse as an apology for criminal acts committed by persons never known to have been insane.

The result of our examination of the circumstances of the case as above detailed, and of Dr. Ray's remarks thereupon, is, that the insanity of the murderer is by no means clear; and that Dr. Ray's discussion of facts is marred by special pleading, or a determination to represent the case as one of transitory mania.

The Report of the Nineteenth Annual Meeting of the Associ-

ation of Medical Superintendents of American Institutions for the Insane offers few particulars demanding notice in this place. Eighteen members were present, and the meetings were presided over by Dr. Kirkbride, Dr. Curwen acting as Secretary. Dr. Storer attended "*as a delegate*," duly accredited, from the American Medical Association. The principle of co-operating with other societies having cognate objects, exemplified in this admission of a delegate, seems to us worthy of imitation in our own Association. The meetings extended over three days, and were agreeably diversified by a splendid evening entertainment given on the second day at the Dixmont Hospital for the Insane, in Pittsburg, Pennsylvania. The reading of Dr. Ray's paper, analysed above, called forth from the members, besides criticisms on its opinions, the narration of several cases of apparent impulsive insanity. Dr. Chipley's paper "On Feigned Insanity" was followed immediately by an essay demonstrating "what insanity is," by Dr. Tyler, and then the two communications were discussed simultaneously, and illustrated by the detail of various curious examples of simulated insanity.

A report was read from the Committee on Heat and Ventilation, reiterating the propositions previously adopted by the Association at their session in Philadelphia. Two of them are specially enforced as expressive of the unanimous opinion of members, viz., "All hospitals should be warmed by passing an abundance of pure fresh air from the external atmosphere over pipes or plates containing steam under low pressure or hot water, the temperature of which at the boiler does not exceed 312° Fahr., and placed in the basement or cellar of the building to be heated.

"A complete system of forced ventilation, in connection with heating, is indispensable to give purity to the air of an hospital for the insane; and no expense that is required to effect this object can be deemed either misplaced or injudicious.

"The Committee also referred to their conviction of the great value of the fan as the most efficient means of providing ventilation, and their opinion that its use should be as regular during the night as in the day-time."

The cost of fuel in American asylums constitutes a very serious item in their expenditure, owing to its comparatively high price and the severity of the winter in most of the States. In Dr. Chipley's asylum, in Kentucky, built for 220 patients, but crammed with 250, coal for the last few years had cost 6000 dollars instead of 3000, as formerly. At the Central Ohio Asylum, under the superintendence of Dr. Peck, about 30,000 bushels of coal are consumed in the course of a year.

Relatively to the employment of steam pipes for warming

buildings, Dr. Douglas, of the Quebec Asylum, threw out a useful caution against the danger of fire incurred by them when placed contiguously to wood-work. Steam, he stated, at 15 lbs. pressure, would be sufficient to set up combustion.

Dr. Kellogg, of the New York State Asylum, at Utica, read a paper on "Moral Imbecility, or Perversity, as exhibited by a class of Patients found in Lunatic Asylums;" Dr. Chipley, one on "The application of Anæsthetics in the treatment of Insanity;" both of which were discussed during the afternoon sitting of the first day.

At the Thursday meeting Dr. Curwen questioned the members as to the treatment they adopted in epilepsy, and from the replies educed it distinctly appears that bromide of potassium, in doses of from five to fifteen grains or upwards, is the medicine most trusted and found most useful. Dr. Tyler assigned a high importance to regulating the diet and regimen in the case of epileptics not insane. "He enjoined a regular time to get up in the morning, a regular time of going to school, a regular time for meals, a regular time for going to bed; in fact, a regular time for everything. The diet he recommended was boiled milk, Hecker's farina, and bread, except rye or Indian brown bread. Under this treatment he had been very successful." Dr. Butler had faith in the use of stramonium.

"Dr. Butler introduced the subject of 'the condition of the indigent and incurable insane' in a brief address, which gave rise to the most spirited debate of the session." It would appear that the wants of incurables have hitherto not been attended to as they ought. In Connecticut there are 500 cases which ought to be under hospital treatment. The question raised is, "What shall we do with them?" The Legislature entertained a proposition for a farm where incurable patients could be suitably cared for, and at the same time perform some labour which would partially meet the expense of their support.

Dr. Butler expressed his belief that "there was not an institution in the land in which incurables did not embarrass the care of the curables." Dr. Hills reported that, "In Ohio they had increased their asylums to four, but there was an increase of the insane. Not more than one half of the insane are cared for in these institutions; the rest were in the workhouses and gaols, and in the hands of friends, their cases being inadequately provided for."

In the course of the discussion a conviction was expressed by the majority by far, that the separation of the incurable from the curable in distinct asylums is undesirable, and would in no great measure relieve the general cost of maintenance. "By pursuing such a course the standard was lowered, and the

respect of the community was reduced in relation to the proper treatment of the insane." "The discussion was brought to a close by Dr. Butler moving the following resolution—That a committee of three be appointed to take into consideration the condition of the chronic and supposed incurable insane, and the best possible arrangement for their custody and treatment, and to report at the next meeting of the Association."

Dr. Gundry had been in the habit of treating, with much advantage, cases of recurring mania with doses of from fifteen to forty drops of the tincture of digitalis. He had used the same medicine in acute mania, but not with the like persuasion of its utility.

Two important resolutions were arrived at by the meeting. "That each member of this Association be earnestly requested to thoroughly consider the subject of the legal relations of the insane, and of a general law for the insane in all the States; to procure such legal counsel in the matter as may be possible for each, and to bring a written statement of his views to the next meeting of the Association, such consideration to be based upon the project of the law now before the Association." (See 'Journal of Mental Science,' January, 1865.)

"That this subject be assigned as the special business of the next meeting of the Association, and that each member be notified to this effect by the Secretary."

Dr. Chipley's paper "On Anæsthetics," read at the meeting, is printed in the July number (1865) of 'The American Journal of Insanity.' He gives in it a sketch of the history of the employment of ether and chloroform in lunacy. In 1847 the vapour of ether was given to sixteen patients at the New York State Asylum. "This was, perhaps, among the earliest trials of anæsthetics in the treatment of insanity. It was given to none highly excited or maniacal. Some were not affected, others appeared to be temporarily benefited, and still others were inspired with new delusions." For several years after this date the use of anæsthetics had made little way in asylums. In 1854 Dr. Ray read a paper on the subject, but it was not till 1858, when Dr. Tyler reintroduced the subject to the members of the Association, that evidence was furnished that the employment of these agents had been at all largely tried. In the course of the discussion in this latter year (1858) it was asserted that there was no case on record of death from the inhalation of sulphuric ether. Dr. Chipley has put this assertion to the test by a careful examination of more than one hundred volumes of the principal medical journals of the United States. The result is, that he has "not found a single fatal case recorded as having

occurred in America from the inhalation of sulphuric ether, while a most melancholy array of deaths from chloroform was constantly intruding upon my notice.

"I did not look into any foreign journals, because I was seeking only to ascertain the results of American experience. I am aware that Professor Simpson alleges that fatality has attended the inhalation of ether; and that Dr. Kidd, in reply to a circular of the 'Boston Society for Medical Improvement,' gives the particulars of thirty-six cases of death from the inhalation of the same anæsthetic. I cannot account for this difference in the experience of Europe and America. It cannot be because ether is little used in this country. At one time it was resorted to exclusively; and some of the large hospitals, as the New York Hospital, have exhibited no other anæsthetic for many years. Chloroform has been excluded from this institution for nearly twenty years, and it is exclusively used in Philadelphia by only one gentleman of eminence.

"Other objections are urged against the use of the vapour of chloroform. Cases of permanent and serious impairment of the mind from a single exhibition of this article are reported. Six cases of insanity, which had continued from one to six years at the time of the report, are recorded in the 'New York Medical Journal.' Dr. Bell mentioned in 1853 one case, and Dr. Kirkbride two cases, of mental disorder after chloroform inhalation. One of Dr. Kirkbride's cases, indeed, was attributed to ether; if this be so, it is the only one on record."

Dr. Chipley notices the various agents proposed in lieu of chloroform, and their failure; and he alludes to a case of death from inhaling of one drachm of a mixture of ether and chloroform, consisting of one part of the latter and four of the former anæsthetic washed. He concludes his paper by propounding the questions—"What is the result of the last seven years' observation, since the subject was last discussed in the Association, as to the permanent benefit of anæsthetics by inhalation in the treatment of insanity?" and "Are not anæsthetics falling into disuse in the treatment of mental diseases?"

Tests of Insanity is the title of a short paper read by Dr. Tyler before the Association. He adopts Dr. Combe's definition of insanity as the best, viz., that "Insanity is a prolonged departure, without an adequate external cause, from the modes of thinking and the state of feeling usual to the individual in health."

The first indication of mental disorder remarked on by Dr. Tyler is the concentration of the mind on *self*, but it is one that has been generally noticed by those concerned with the treat-

ment of the insane, and cannot, we presume, be the test of insanity the writer does not remember to have seen distinctly pointed out. However, Dr. Tyler deserves credit for having given to it greater distinctness; although, at the same time, considered as a *test* of insanity, its application would in practice be very limited, as unluckily inherent, overcoming selfishness in purpose, in action, and thought, is a malady not peculiar to the insane.

In the case of the insane, Dr. Tyler says—"His *relations* to everything and every person are more or less changed by the different estimation in which he has unconsciously grown to hold himself. Upon any subject within the circle of his disease facts and external circumstances have little or no influence with him. His convictions come from his own personal laboratory. They are original. Sometimes they are strictly intellectual results; often they grow from a morbid emotion. But they are coined by *him*, and not received from another. And they are ultimate authority to him. . . . 'I know it is so,' and this is more to him than all the facts and logic of the universe." He is never led to distrust or to examine his convictions when they are called in question or even scouted as absurd.

To trace this feature of insanity, this assumed infallibility of opinion and egotism, one step nearer "its cause or mental antecedent, we come to this fact, that the insane mind comes to its conclusions by *intuition*—by the intuition of disease, of course, still by intuition. A healthy mind by the senses gathers facts, compares them, reasons upon them, and comes to an opinion. An insane mind inwardly begets a conviction with which it starts, and then gathers facts to support that conviction, if it is of importance to gather them at all. This is the quality of the insane mind which I have thought to be, oftener, perhaps, than any other, constant and distinctive, and therefore symptomatic and useful in diagnosis—this infallible knowing by intuition, or by the instance of mere feeling.

"Another general sign of mental disorder which has been too little estimated, and often estimated wrongly, is the inconsistency of the insane. . . . Is not one of the notable and distinctive characteristics of insanity its inconsistency with itself? And yet it is a popular notion that a monomaniac only *starts* wrong, and that his conduct and conversation are consistent with his wrong starting (according to the dictum of Locke, that madmen argue rightly from wrong premises). Indeed, it is a maxim of English law, that a man acting under an insane delusion acts consistently therewith, *i. e.* acts as a sane man would were the delusion a truth." But observation perpetually shows that the actions, the conduct, and conversation of lunatics, if in ac-

cordance with their delusions in some matters, are in most others inconsistent and incongruous.

"Lastly, there is another general sign of insanity . . . which is not, I believe, studied enough, nor often enough used by us as a practical *test* of disease . . . what I mean is found in the changed and peculiar expression of the countenance, of the eye, of the manner, movements, attitudes, &c." From the study of these matters the expert acquires a facility in recognising insanity by its general physiognomy, which the inexperienced cannot possess, and which, indeed, cannot be transferred to them by another.

Pathologico-anatomical Manifestations of Insanity.—This is a translation by Dr. Workman, of Toronto Asylum, of a chapter of the work of Dr. M. Leidesdorf on the pathology and treatment of mental disorders. It presents a brief outline sketch of the several lesions, noted by pathologists, of the cranium, the cerebral membranes and brain, as well as of abnormalities in other organs of the body, accompanied by notes on such morbid changes as have been found in more frequent connection with insanity. The conclusion, unhappily, is, "that psychiatry receives but trivial positive benefit from the preceding facts. . . . The pathological discoveries connected with paralytic dementia" may be regarded "as of the greatest weight and consistency; (and) we have ascribed an extraordinary value to cerebral hyperæmia. It is beyond all doubt that every form of insanity, combined with high excitement, shows clear indications of cerebral hyperæmia in the great majority of cases, and that most generally the psychical disorder is the result of the cerebral condition which determines the hyperæmia, a condition which, in its incipient development, we are not, with our present state of imperfect information, in a position precisely to indicate."

"If the hyperæmia passes off without any permanent morbid result being left, the psychical disorder disappears," but if organic changes ensue, then the primary form of mental disorder assumes a secondary and usually an incurable character. "In opposition to the concurrent views of Griesinger, Bartolini, and Bottex, we must believe our own observations, which have shown us that in both melancholy and dementia cerebral anæmia is most commonly the associate of œdema. If these forms of insanity pass into fatuous dementia, then we find poverty of blood in the brain far more usually than the contrary, whilst we may in general say that the curable forms of insanity mostly proceed with nutrient disturbances of the brain, without leading to deep disorganizations or textural metamorphoses; we find, on the other hand, in the incurable forms,

conditions of disaggregation, or the so-called regressive metamorphosis of the textural elements of the brain, or manifest destruction of the whole brain, or of certain important parts, for example, the cortical portion."

The general conclusion to be gathered from Leidesdorf's researches is, that pathology as yet throws no light upon the phenomena of mental alienation in their relation to definite organic changes in the encephalon.

The dissertation on "*The Willard Asylum and Provision for the Insane*," bears no author's name. The Willard Asylum is of recent institution, the fruit of an inquiry ordered by the Legislature of the State of New York, in April, 1864, relative to "the condition of the insane poor in the various poorhouses, almshouses, insane asylums, and other institutions where the insane poor are kept, not including, however, such institutions as are now required by law to report to the Legislature of the State."

The asylum derived its name from Dr. Willard, the Secretary of the State Medical Society, appointed by the Legislature to collect the required information, who so earnestly and zealously performed his duties that, to perpetuate his memory, the asylum that originated from the inquiry has had his name attached to it. For, it is to be regretted, Dr. Willard died prematurely before the passage of the law, founded upon his report, creating the new institution.

It is a "State Asylum" for the chronic insane poor. The law that the Governor of the State should appoint three commissioners to carry out the erection of the building, and also seven trustees empowered "to appoint a medical superintendent, one assistant-physician, a steward, and a matron, and adopt the necessary by-laws for the government of the asylum, and fix the rate per week, not exceeding two dollars, for the board of patients, and, with the approbation of the governor, designate the counties from which the chronic pauper insane shall be sent to the said asylum.

"The chronic pauper insane from the poorhouses of the counties thus designated shall be sent to the said asylum by the county superintendents of the poor, and all chronic insane pauper patients who may be discharged not recovered from the State Asylum at Utica, and who continue a public charge, shall be sent to the asylum for the insane hereby created.

"The county judges and superintendents of the poor in every county of the State, except those counties having asylums for the insane, to which they are now authorised to send such insane patients by special legislative enactments, are hereby required to

send all indigent or pauper insane coming under their jurisdiction, who shall have been insane less than one year, to the State Lunatic Asylum at Utica.

"Seventy-five thousand dollars are hereby appropriated for the purpose of carrying into execution the provisions of this Act."

"The asylum hereby created shall be known as the Willard Asylum for the Insane."

Such are the leading features of the recent law of the Legislature of New York State, enacted to provide for chronic pauper lunatics, who had heretofore been very badly cared for, as a rule, mingled among the inmates of poorhouses, and even of gaols. Dr. Parigot, in his essay noticed at the beginning of this article, has commented severely upon the wretched condition of numerous poor insane people in the several states of the Union, scattered here and there in establishments totally unfitted for the care and management of such cases, a state of things calling loudly for State interference.

The writer of the article "On Provision for the Insane," under notice, proceeds to point out disadvantages accruing from the above system adopted by the New York Government. He comments upon the necessity of early treatment, as by it only "can the State be relieved of the burden of chronicity;" and upon the advantages of proximity to asylums in facilitating early treatment. He then proceeds to show that the State Asylum at Utica, filled with 600 patients, is not adapted to the purposes assigned it, as being the only receptacle for the treatment of recent or acute cases of madness. For it is too large and unmanageable to permit of individual medical treatment being accorded to its inmates. "Hurried and routine practice must, to a large extent, usurp the careful and deliberate examination which is the sacred and inalienable right of each individual case." He urges, moreover, that in an asylum for chronic cases similar medical and moral treatment must be provided; the accommodation must be of a special character; the diet must be superior to that allotted to persons not lunatic; and the arrangements for nursing, warming, ventilation, &c., must partake of the same expensive character as in asylums occupied by recent cases; and his general conclusion is, that the distribution of acute and chronic cases is economically not important, and with regard to the welfare of the patients themselves is prejudicial.

After enumerating the several schemes for providing for the ever-multiplying victims of insanity, and recognising that additional hospital accommodation is requisite, the writer goes on to propose the division of the State into three equal sections, to the central one of which the existing Utica asylum should be

allotted for the reception of its insane generally. "Two hospitals for the treatment of acute, paroxysmal, or violent cases, should be built, one in the eastern, one in the western, section. . . . Separate buildings, less expensive and of simpler construction than the hospital, and disconnected with it, should be provided for the quiet, the filthy demented, and paralytics. Buildings of a suitable form should also be erected for the treatment of epileptics. Each hospital should have a farm attached to it, of from 300 to 500 acres. . . . Upon the farm there should be cottages for the employes engaged in the various agricultural and industrial departments of the institution. With these employes the orderly industrious chronic, or the convalescent acute, patient might reside. Such an arrangement would permit a certain degree of family life, and a larger liberty to this class than are compatible with the organization of the hospital proper. It might be found practicable to withdraw a certain proportion of patients from the hospital, and domicile them in cottages, which would, in great measure, be constructed at small expense, by the labour of patients themselves."

Whilst on this subject of the legal provision for the insane, it will be convenient to introduce a few extracts from the 'Report of a Commission on Insanity, appointed by the Massachusetts Legislature in 1863,' and of which a bibliographical notice appears in the 'American Journal of Insanity' for October, 1864. To the question submitted, if patients were wrongly detained or improperly committed to asylums, the Commissioners reply, "that no such case of wrongful confinement has been brought to their notice, and but a single instance of wrongful admission. In this case the patient was received upon the order of a probate judge, and upon learning the facts the case was immediately discharged by the superintendent."

"The Commission objects to the way in which commitments to hospitals are now made, and advises that uniformity should be secured." At present "the alien in Massachusetts has an advantage over her own sons and daughters," for when lunatic he is at once sent to the asylum, whereas the latter, when poor and insane, are left to the tender mercies of the "overseers of the poor," who, "influenced by a short-sighted economy, keep many of their lunatics at home, large numbers of whom become incurable." Sad histories of inhuman treatment of the insane of the State, not placed in asylums, have been brought to light in past years, by Miss Dix and others, and even now much remains to be accomplished in order to secure such unhappy beings from ill-treatment. Of this the Commissioners have given some sad illustrations.

"With regard to insane paupers, the Commission very properly

urges that none should be confined in town poorhouses who have not been previously treated in a State hospital, and discharged as incurable." It is also recommended that additional accommodation be provided for criminal lunatics, both curable and incurable; and that it should be in connection with some of the gaols, but under the supervision of a physician skilled in the treatment of lunacy.

The Commissioners are opposed to loading the superintendent of an asylum with the multifarious duties so commonly imposed. "No man (they write) can be a good, proper, and successful manager of the mental disorders of 400 patients, or even of 250, their more legitimate number, and a proper and successful manager of the purchases and disbursements, and the care of the material interests, of the institution. In such a case the superintendent must choose as to which duty he will perform and which he will neglect, and what he cannot do for his patients must be done by his deputy or assistant. He should not engage in anything that has an exacting claim on his time and attention, or which can conflict with the claims of his patients; . . . more especially he should at no time be engaged in permanent duties of a public or private nature unconnected with, or outside of, those pertaining to his hospital.

"The interior management of hospitals, and the treatment of the insane, cannot be regulated by law. . . . The entire management and treatment of the insane must be confided to the humanity and skill of the superintendent. His authority must be personal. There can be no divided responsibility in the treatment of the insane.

"It has been suggested that there should be so-called *protectors of the insane*, to have no connection with any hospital, either as officers or trustees, who should have authority at certain or at all times to visit these institutions, and examine the patients in general, or particular patients, and decide the question of the propriety of their retention. . . . One objection to this is, that the persons thus chosen, unless as a permanently organized board, can be no more depended upon than the trustees of each institution already appointed, and certainly cannot be supposed to be such judges of insanity as those who have made the disease a study, and who have the opportunity of observing the patients in question from day to day." On the other hand, these visitors and visits would be productive of unmitigated injury to the patients.

However, the Commissioners conclude their report by advising the appointment of a permanent Commission in Lunacy, wielding powers similar to those of its English prototype. This proposition is regarded with disfavour by the reviewer of the

report. The more complete organization and permanency of these protectors of the insane cannot, he remarks, "remove the objections so forcibly put by the Commissioners" against the roving inquisitors they referred to in their remarks. The evils represented are inherent and inseparable from an external board of supervisors intruding into the internal management of asylums, wherein no divided responsibility can be tolerated without prejudice, and entire confidence should be reposed in the superintendent.

These objections are enforced by a lengthened quotation from a report of a committee, drawn up by Dr. Ray, and read at the meeting of American Asylum Superintendents, in 1864.

The other papers enumerated at the commencement of this abstract of the contents of the 'American Journal of Insanity' must be passed by, if only from want of space in our pages. At the same time they do not demand special indulgence as original memoirs, excepting, indeed, a report by Dr. Gray on a case of homicide, and Dr. Kellog's examination of Shakespeare's character of Cordelia, which, like the similar essays of that physician, will be read with interest by all psychological students of our great poet. The article on "German Psychiatrie" is nothing more than our translation of Griesinger's valuable introductory lecture, published in a former number of this Journal, transferred to the pages of our American contemporary. The paper on "The Imagination in the Production of Disease" is a translation of a section of Bouchut's book on "The History of Medicine and Medical Doctrines." "The Psychological Analysis of Courage," by Dr. Castle, is another translation from the French of an article in the 'Annales Medico-Psychologiques.' The paper "On the Physiology of the Brain and Nervous System," by Dr. Brown-Séquard, is reprinted from the 'Dublin Medical Press.'

Did space permit, we might collect from the bibliographical notices and the memoranda in the quarterly summary of the 'American Journal of Insanity,' many other interesting and instructive notes, but must, in conclusion, restrict ourselves to a brief reference to the review of this, our English 'Journal of Mental Science,' which appeared in the number for October, 1865.

The parts noticed are those for January, April, and July, 1865; and, to cut short the suspense of our readers, in awaiting to know how they have passed muster before the critics of our American contemporary, we may at once say that the opinion pronounced is highly gratifying. Dr. Robertson's paper on the means of providing for the increase of pauper lunatics is described as very able and interesting, and a copious abstract

of it furnished. The review department calls for commendation, as exhibiting "no small sign of vigour and ability" in the management of the Journal. "The number for April opens with a learned and excellent paper on 'The Physiology of Idiocy,' and Dr. D. Hack Tuke's essay on 'Artificial Insanity' has the quality of excellence." Upon the notes on the suicide of George V. Townley, it is remarked, "We regret to believe that this forms another sad instance in which the fair fame of our profession has been injured, and the good sense of the community outraged, by the effort to sustain the fatal doctrines of moral insanity." The suicide of the culprit "has been adduced as favouring the opinion of insanity at the time of the murder. This view is, however, vigorously, and we think successfully, combated by the editors."

Lastly, the review closes with a meed of approbation of this section of the Journal, wherein we attempt to represent to our readers the progress of psychological medicine, as far as practicable (as we are pleased to find it esteemed to be in America), "very complete and full of interest."

"As a whole, the 'Journal of Mental Science' well deserves to be the representative, in Great Britain, of a speciality which embraces the names of so many men eminent for philanthropy and learning."

II.—*English Psychological Literature.*

By S. W. D. WILLIAMS, M.D., St. And.

Some Statistics of Idiocy. By ARTHUR MITCHELL, M.D.,
Deputy Commissioner in Lunacy for Scotland.

(*Edinburgh Med. Journal*, January, 1866.)

I. *Sex.*—The number of idiots and imbeciles examined by Dr. Mitchell was 1345. Of these the distribution of the sexes ran as follows :

	Male.	Female.		Male.	Female.
Idiots	430	284	or	100 to	66·0
Imbeciles	321	310	or	100 to	96·5
	<hr/>	<hr/>			
Total idiots and imbeciles	751	594	or	100 to	79·2

"From this it appears that amongst idiots and imbeciles there are more males than females, there being only 79 of the latter to every 100 of the former. The reverse of this holds good, under every circumstance, amongst those labouring under the acquired, as opposed to the congenital, forms of insanity."

Dr. Mitchell then divides these 1345 cases into two groups of 566 and 799, representing the idiots of the southern and northern counties of Scotland respectively, and is thus led to the following conclusions :

(1) That the excess of male over female idiots and imbeciles, taken together, is considerable and steady.

(2) That the excess of males is much greater among idiots than among imbeciles ; in other words, that the excess of males is most marked in the graver forms of the disease.

(3) That even among imbeciles, when we deal with large numbers, it will probably be always found that males exceed females, though not to a great extent.

II. *Age*.—Dr. Mitchell then gives a series of tables, from which it appears that the ages of over 63 per cent. lay between ten and forty years, and that there are more between the decimal periods of twenty and thirty than any other. It also appears, however, that a larger number of idiots and imbeciles reach a more advanced age than is usually supposed, but that of the two classes imbeciles live longer than idiots.

“Thus, while we have only 11·3 per cent. of the idiots, we have not less than 26·6 per cent. of the imbeciles above fifty. It would appear, in short, that the lower the type of the mental defect the sooner comes virtual old age and death.”

Contrasting the ages of idiots and imbeciles with those labouring under the acquired forms of insanity, Dr. Mitchell arrives at the conclusion that the proportions are as 47·4 per cent. of the former to 16·4 per cent. of the latter, above the age of thirty the proportions being reversed, the former being 52·5 per cent. to 83·5 of the latter.

III. *Comparative frequency of birth of Idiots in First and subsequent Pregnancies*.—Dr. Mitchell's conclusions on this head are, briefly, “that idiocy is more likely to occur among first and latest (seventh to eleventh) pregnancies than among others.”

IV. *Age of Mother of Idiot at time of birth of Idiot*.—Dr. Mitchell's table under this heading shows that mothers under twenty-four years of age and above thirty-five are those more specially liable to have idiocy in their children.

V. *Size of Idiot's Head*.—During some months Dr. Mitchell measured the head of every adult idiot examined. The lowest age of those examined was twenty-one, the observations being confined to adults, in order to make a comparison with the ordinary sane population possible.

The whole number of observations was 123, and the results are given in the subjoined table :

Circumference of Head in inches.	MALE IDIOTS.		FEMALE IDIOTS.		Average Male Head in Scotland, From Hatters' Sales.
	Total.	Per Cent.	Total.	Per Cent.	Per cent.
From 16 to 17 inches	...	...	...	...	...
" 17 to 18 "	2	2.9	2	3.6	...
" 18 to 19 "	2	2.9	4	7.3	...
" 19 to 20 "	6	8.8	11	20.0	...
" 20 to 21 "	17	25.0	19	34.5	6.2
" 21 to 22 "	23	33.8	16	29.1	29.9
" 22 to 23 "	12	17.7	3	5.5	55.5
" 23 to 24 "	5	7.4	...	...	7.7
" 24 to 25 "	1	1.5	...	...	0.7
Total . . .	68	100.0	55	100.0	100.0

" (1) As regards *males*, the sum of the circumferences of the 68 was $1434\frac{1}{8}$ inches, which gives an average of $21\frac{1}{8}$, corresponding to the hat the size of which is known as '6 $\frac{3}{4}$ small.' Most of the six heads which had a circumference above 23 inches were unmistakably hydrocephalic, and so I think were some of those between 22 and 23 inches.

" The average male head of Scotland, as learned from hatters' sales, is 'size $7\frac{1}{8}$,' which is understood to represent a circumference of $22\frac{3}{8}$, or rather less. This being the case, the average adult male idiot's head is more than an inch less in circumference than the average head of the ordinary adult male population.

" (2) As regards *females*, the sum of the circumferences of the 55 was $1129\frac{1}{4}$, which gives an average of $20\frac{1}{4}$, corresponding to the hat the size of which is known as '6 $\frac{1}{2}$.' We do not know the average size of the ordinary adult female head, with which to compare this.

" The difference between the size of the heads of male and female idiots is, on the average, $\frac{9}{16}$ ths of an inch, and this is not more than the difference between the heads of the two sexes in the ordinary sane population.

" The general conclusion to which these figures distinctly lead is this:—That the heads of idiots, as a rule, are abnormally small, but that a small head is not an essential in idiocy."

On Temporary Insanity. By W. LAUDER LINDSAY, M.D., F.R.S.E.; Physician to the Murray Royal Institution for the Insane, Perth.

(‘Edinburgh Med. Journal,’ November, 1865.)

DR. LAUDER LINDSAY commences his, as he himself truly terms it, very suggestive paper, by relating an extremely interesting case of temporary insanity, and on this case he builds his paper.

The history of the case, told briefly, is as follows:—A cook in a gentleman’s family had been unable, owing to some family squabbles, to see her mother for many months. “On the forenoon of the day of her illness she had had an opportunity of visiting her, having been sent to town on a message by her mistress,” but, being unable to effect her object, she came home in a state of “great hysterical excitement,” which gradually increased during the time she was preparing dinner, until she at last became perfectly frantic, and, dashing down the dinner, she rushed to a window, broke the panes, and began weeping violently, “protesting that the dinner was wrongly prepared, and that she was looked down upon by her fellow-servants.”

She remained in a state of the greatest violence for from two to three hours, during which time she struggled violently with those around her in her endeavours to escape from the house. Having been at last coaxed up to bed, and a strong dose of “Battley” administered, she became calm and rational, and got up and went about her work as usual the next morning.

Dr. Lindsay justly points out that such a case as that above recited illustrates—

I. *The extremely short duration, the paroxysmal or ephemeral character, of certain forms of insanity; their sudden incursion and equally sudden disappearance; the occasional composure and sanity of a patient represented to have been only a short time before in a state of “furiousness.”*

“This attack began about six, and was over before nine;” and Dr. Lindsay thinks it teaches us a lesson as to how careful we should be before we condemn the judgment of a certifying medical man when patients are brought into asylums, as they often are, only, on the day after admission, to appear perfectly sane. Dr. Crichton Browne, in a paper he wrote in the ‘Psychological Journal’ some three years ago, has clearly described this complaint under the term mania “ephemera.”

II. *The extreme difficulty of properly naming and classifying*

all the phases or forms of mental aberration, and the unsatisfactory character of all modern nosologies thereof.

Thus, the above illness might come under the denomination of *hysteromania*, "for it appeared to be an exaggeration of hysteria;" or *delusional insanity*, for the patient thought her fellow-servants despised her, and that she had neglected her duties; or *monomania*, "inasmuch as the intellectual aberration was visible in one or two channels only;" or *suicidal melancholia*, for she was evidently bent on self-destruction; or, lastly, *delirium tremens*.

Dr. Lindsay therefore thinks that there is no nosology so practically useful "as the old one of half a century ago, viz., that which divides all forms of mental aberration into—

- | | |
|----------------------------------|---------------------------|
| " 1. <i>Mania</i> ; | 3. <i>Melancholia</i> ; |
| 2. <i>Monomania</i> ; | 4. <i>Dementia</i> ; and, |
| 5. <i>Idiocy (or Amentia)</i> ;" | |

and he thinks he is clearly borne out by the fact that, almost without exception, all asylum reports adopt this classification, although at the same time he admits the difference between *practical usefulness* and *scientific accuracy*, and finally remarks—

"In truth, *there can be no classification of insanity absolutely correct or scientific*, inasmuch as the phases of abnormal mentalisation are as infinite, as varied and varying, as contradictory or capricious, as the phases of human nature, of normal mentalisation, of emotional exhibition, of the play or display of the passions. Neither normal nor abnormal mind has been or can be accurately defined so as to include all the phenomena of the one, and exclude all those of the other. I believe a scientific definition to be impossible. The principles of nomenclature and classification as applied to such sciences as botany and zoology are inapplicable, cannot be carried out, at least into the details of species and varieties, without sacrifice of truth ; and while this is so all attempts at such classifications are simply mischievous and absurd, leaving the subject more confused than they found it, rendering the science (?) called 'Medical Psychology' a bugbear to the student, a butt for satire and abuse by the lawyer, a subject of suspicion to the public."

III. *The frequent extreme difficulty of dealing—for the best—with sudden outbursts of violent insanity in private life.*

This is not the least important nor the least difficult portion of Dr. Lindsay's paper. Indeed, the difficulty of dealing with insane patients in private life is a daily increasing evil, which needs all the skill of the physician successfully to combat.

As Dr. Lindsay remarks, such a patient as the above, suddenly

breaking out into a fit of temporary insanity, might be committed to gaol or the police office, but the public would probably cry shame on such a proceeding, although such a course is infinitely better than allowing the poor patient to do himself or those around him harm. Or he might be treated at home by powerful attendants, but that there is such great difficulty in procuring them properly trained, those usually to be had being almost invariably of the "Betsy Prig" stamp. Indeed, the necessity for "training of attendants on the insane for service in private homes," is becoming daily more apparent, and is truly worthy of the attention of the philanthropist.

Dr. Lindsay then proceeds to give a rather lengthy tirade against the total abolition of mechanical restraint, which does not seem quite pertinent to his subject, and is more allied to French than modern English teaching, and thus concludes his otherwise very interesting paper :

"III. *Résumé*.—The foregoing paper is intended to be *suggestive*, rather than descriptive. The main points mooted therein, and to which I would earnestly invite the attention of the medical profession, and through it of the general public, are these :

"1. The necessity for training a body of attendants on the insane for service in private life.

"2. The consideration of the best means of mechanical restraint of the insane in cases where this is required.

"3. The responsibilities, helplessness, and difficulties of masters of insane servants and guardians of insane patients under certain exceptional circumstances.

"4. The responsibilities and difficulties of physicians in the same classes of cases.

"5. The medico-legal and other relations of sudden, violent, ephemeral insanity.

"6. The non-necessity for, or impropriety of, sending all insane patients to lunatic asylums.

"7. The distinctions that ought to be drawn between the treatment of the insane in well appointed hospitals and in private life.

"8. The effects of a false philanthropy in multiplying and aggravating the evils resulting from insanity.

"9. The dangers arising from revulsions in public opinion and practice, as illustrated by prison and asylum discipline.

"10. The necessity for readjusting the equipoise in the relative treatment by the law and by public opinion of the insane and sane in certain circumstances.

PART IV.—NOTES AND NEWS.

EARLY in the morning of the 5th of March last, at the Lawn, Hanwell, after a brief illness, entered into his everlasting rest, aged seventy-one years, John Conolly, M.D., D.C.L. On the morning of the previous day he had sunk down on the floor and been unable to rise, though without being insensible. For a short time afterwards he had some difficulty in expressing himself; he could not always find the right word, but occasionally made use of a wrong one; all the while being quite conscious of his difficulty, and painfully anxious to assure those around that he was perfectly sensible of their presence and of all that was said. It was very characteristic of that careful attention to propriety of language as well as of the extreme courtesy which distinguished him throughout life that he grieved and apologized for his inability to express himself correctly, even when he was expressing himself quite well. His longing desire was to be at rest, and his earnest hope, that he might not recover from this attack as he had recovered from former like attacks. "I have only one wish," he exclaimed—"to die; but God's will be done." In the evening he had quite recovered his power of expression, spoke cheerfully, and uttered many kindly wishes, still praying that he might not recover, though fearing that he might. At 3 a.m. of the following morning he was attacked with paralysis of the right side and violent epileptiform convulsions, which followed one another in quick succession for two hours; he was quite insensible; and when the convulsions ceased he passed gently away, as one who falls to sleep after a long day's labour. His body is buried in the Kensington Cemetery at Hanwell. His name liveth for evermore.

Notice of the late Dr. Conolly.

In the next number of the 'Journal of Mental Science' will appear a full memoir of the late Dr. Conolly; meanwhile we quote the following notice which appeared in the 'Medical Times and Gazette':

Early in the morning of Monday, March 5, there passed to his everlasting and long-desired rest, after a few hours of illness, one whose name will always be identified with a great and noble work. JOHN CONOLLY, to whose earnest convictions, faithful perseverance against all difficulties, and zealous labours, the modern humane treatment of the insane mainly owes its practical origin and its consummate triumph, is henceforth only a name in history. But if there is a good title to the gratitude of mankind in the alleviation of infinite human suffering—if there is a title to immortal fame in the faithful performance of a great and good work of reform, the memory of which must last as long as human sympathies endure—then his is a name which the world will not let die, and his a glory of which nothing ever can bereave him. He made the best part of a life having many vicissitudes a noble part of human progress: by his death individual ties and sympathies, virtues and foibles, all fall away, and the greatness of his life, standing more clearly out, becomes the concern, as it is the gain and honour, of mankind.

The late John Conolly, M.D., was born at Market Rasen, in Lincolnshire, his mother being of the name and family of the present Laureate. His father dying when he was only a few years old, he was early sent from home to school; and often and earnestly in after life did he revert to the dreary misery of that period, in which the semblance of learning was mechanically imparted by aid of frequent punishments. That he had obtained by stealthy purchase some volumes of the *Spectator* and a copy of the "Pilgrim's Progress" were gleams of bright reminiscence of that dark period; and he read and re-read the essays of Addison with a delight to which he ever loved to recur, and which we may well understand in one who wrote as elegantly and correctly as he always wrote. It may well be, indeed, that the influence of Addison's easy and graceful style contributed to the formation of his own correct taste in composition; for to the last scarce anything more offended his refined sensibility than coarseness and slovenliness in the expression and structure of a sentence.

Soon after leaving school, and when not yet eighteen years of age, he entered a Militia Regiment as ensign, and was stationed at different places both in Scotland and Ireland. The life of thoughtless pleasure and reckless excitement, common at that time amongst the officers of a regiment, could not fail to be for a time attractive to a young ensign of lively and impulsive temperament, with a passionate love of genial social intercourse; but it marks the superiority of his mental culture, as well as the skill of the pen, which has often pleased and instructed the readers of this journal, that other officers used commonly to have recourse to his help to compose their important letters. Not long after leaving the regiment, and when only twenty-two years of age, he married, and went with his wife to France, where in a beautiful cottage near Tours, afterwards occupied by the poet Béranger, he passed in unheeding enjoyment the happiest year of his life. But at the end of a year, and when a child had been born, it became necessary to think seriously of adopting some profession or other regular means of livelihood. After consulting friends, one of whom was the amiable Dr., now Sir Arnold Knight, he resolved to commence the study of Medicine at Edinburgh. Leaving, then, behind him, with natural reluctance, his beautiful cottage and the unmingled poetry of life, he set forth with his wife and child to Edinburgh, and began in earnest the work of a medical student. It was a great and dreary change, but its weight was lightened by the friendly hospitality of many of the illustrious men who at that time adorned the northern

capital, and who were attracted to the student by the amiable disposition, courteous manners, and refined culture which distinguished him through life.

On graduating as a Doctor the subject of his thesis was "Insanity;" his attention being thus early occupied with the subject which was to be the field of his future labours and triumph. It will be erroneous, however, to suppose that he then foresaw the future scope of his work, or that he had any definite aim which he proposed to himself to work for. No man who has done anything great in the world of practical activity ever had such pre-determined aim, though he might think so afterwards; there is much blind struggling, amidst shifting uncertainties and untoward circumstances, before the appointed man and his work come together; and it is that which lies deep in his nature, that which is beneath will and beneath consciousness, and of which he can give no account, that unconsciously impels him on his course, and inspires him with the faith necessary to success.

On leaving Edinburgh, Dr. Conolly first went to Lewes, with the object of there settling in practice, but moved after three months to Chichester, where, about the same time, the late Sir John Forbes established himself. Their short rivalry was the foundation of a lasting friendship, and they were afterwards associated together as joint editors of the *British and Foreign Medical Review*, and with Dr. Tweedie in the production of the *Cyclopædia of Medicine*. But Chichester was not equal to the support of two physicians, and Dr. Conolly, after residing there a year, removed to Stratford-on-Avon, where he practised successfully for several years, and accomplished much literary work. Here, too, he enjoyed the friendship of the great Whig scholar and champion, Dr. Parr, the severest of schoolmasters, but the most kind-hearted of men. Leaving Stratford-on-Avon to assume the Professorship of the Principles and Practice of Medicine at University College, London, he established himself in Gloucester Place, and was during the time of his residence in London one of the most active members of the "Society for the Diffusion of Useful Knowledge." But as practice did not come sufficiently quickly, and as divisions existed in the councils of the college, and bickerings and heart-burnings within its walls, while no hospital had yet been built, he resigned his appointment, after holding it for three years, and returning to the neighbourhood of Stratford, settled at Warwick. It was after he had been there six years that the office of Resident Physician to the Hanwell Asylum became vacant, and that he applied for the appointment, being defeated only by the casting vote in favour of Dr. Millingen. But a year afterwards the office was again vacant, and his second application was happily successful. And now at last, after many wanderings and much suffering, he had found the true sphere of his labours: he was appointed Resident Physician in June, 1839, and in September of that year every form of mechanical restraint had been banished from the asylum. It was some time before the non-restraint system was generally accepted as practicable; much opposition had to be encountered and overcome; but the experiment made on so large a scale in an institution containing nearly a thousand patients, suffering from every variety of insanity, proved beyond all question not only the entire practicability, but the great benefit of the humane system of treatment. The complete record of its progress is contained in the admirable reports of the Hanwell Asylum from 1839 to 1844. In the latter year Dr. Conolly resigned his appointment at the asylum, but continued to devote his energies to the promotion of every good scheme having for its object the improvement of the condition of the insane. In conjunction with the late Dr. Reed, he was an active promoter and the constant supporter of the Idiot Asylum at Earlswood; and his warmest desires were fixed on the establishment of long and sorely needed public asylums for the poor insane of the middle classes.

Though it may justly be thought, perhaps, that one who did so much for the world was not adequately rewarded by it; when others who have not deserved so well have received great rewards, his services were not entirely unrecognised. A magnificent testimonial, consisting of a massive silver group of allegorical figures, together with his portrait, was presented to him in 1852 by public subscription; and in the same year the University of Oxford conferred upon him the degree of D.C.L. But his highest testimonial is the noble work which he has accomplished, and his highest honour will be in the grateful recognition of foreign lands and of future ages.

Of his literary works we cannot speak at length now. They are well known both in this and other countries; his book on the 'Construction and Management of Lunatic Asylums' is a standard work of authority, and his little work on "Hamlet," published two years ago, is one of the most graceful, learned, and philosophical essays that has ever proceeded from any pen. His extremely polished style, the careful construction of his sentences, the elegance and precision of his language, make whatever he wrote most interesting to read.

During the last few years of his life he had, in consequence of failing health, gradually retired from active practice; and daily occupied in the study of classical authors, English and Latin, he awaited with equanimity the great change. He had so lived that when the summons came he could meet it, not in fear and trembling; but, sustained by the consciousness of a good work well done, he willingly approached his grave as one who, the long day's task over, "wraps the drapery of his couch about him, and lies down to pleasant dreams." His end was sudden, as he had ever prayed that it might be; and his intellect was perfectly unclouded until close upon the fatal termination, as he had hoped with an exceeding earnest hope that God would grant it might be. A sudden attack of hemiplegia was followed by severe unilateral convulsions, and in a little more than two hours he entered on his everlasting rest. He was 71 years of age.

"After life's fitful fever he sleeps well."

Medico-Psychological Association.

The Annual Meeting of the Medico-Psychological Association for 1866 will be held in Edinburgh, under the Presidency of Dr. W. A. F. Browne, Commissioner in Lunacy for Scotland, on Tuesday, the 31st July.

Communications, &c., &c., in reference to the Annual Meeting to be addressed to the Honorary Secretary (Dr. Harrington Tuke), 37, Albemarle St., London, W.

Books Received, 1866.

1. 'Verslag over den Staat der Gestichten voor Krauksinnigen in die Jaren, 1860, 1861, 1862, und 1863; aan den minister van Binnenlandsche Zaken ingediend door de Inspecteur dier Gestichten, 1865.

2. 'A Manual for the Classification, Training, and Education of the Feeble-Minded, Imbecile, and Idiotic.' By P. Martin Duncan, M.B. Lond., and William Millard. Longman and Co., 1866.

Will be reviewed in our next number.

3. 'Die Pathologischen Gewebenänderungen des Ohrknorpels und deren Beziehungen zur Ohrblutgeschwulst.' Von Dr. Ludwig Meyer.

(A Reprint from Virchow's 'Archiv,' B. XXXIII.)

4. 'Ueber die Behandlung des Delirium Tremens.' Von Dr. Ludwig Meyer.

(A Reprint from the Berlin Clinical 'Wochenschrift'.)

5. 'Successful Removal of the Uterus and both Ovaries by Abdominal Section.' By Horatio R. Storer, M.D., Boston, 1866.

(Reprinted from the 'American Journal of the Medical Sciences'.)

6. 'Time and Space:' a Metaphysical Essay. By Shadworth H. Hodgson. Longman and Co., 1865. See Part II, Reviews.

7. 'The Popular Magazine of Anthropology.' No. I, January, 1866. Trübner and Co.

8. 'The Richmond Medical Journal.' Edited by E. S. Gaillard, M.D., and W. S. McChesney, M.D. No. 1, Vol. I. Richmond, 1866.

Appointments.

Henry Lewis Harper, M.D. St. And., Assistant Medical Officer of the Cheshire Lunatic Asylum, has been appointed Medical Superintendent.

E. Chaffers, M.R.C.S. Eng., has been appointed Assistant-Surgeon to the North Riding Lunatic Asylum, Clifton, York.

J. T. Dickson, M.R.C.S.E., has been appointed Assistant Medical Officer to the City of London Lunatic Asylum at Stone, near Dartford.

J. Norrish, M.R.C.S.E., has been elected Assistant Medical Officer to the Cheshire Lunatic Asylum.

William Rhys Williams, M.D. St. And., L.R.C.P. Ed., has been appointed Resident Physician to the Bethlehem Hospital.

Obituary.

On the 1st February, at Northumberland House, Stoke Newington, N., George Birkett, M.D. Lond., aged 47.

On the 5th March, at the Lawn, Hanwell, John Conolly, M.D., D.C.L., aged 71.

Notice to Correspondents.

English books for review, pamphlets, exchange journals, &c., to be sent either by book-post to Dr. Robertson, Hayward's Heath, Sussex; or to the care of the publishers of the Journal, Messrs. Churchill and Sons, New Burlington Street. French, German, and American publications may be forwarded to Dr. Robertson, by foreign book-post, or to Messrs. Williams and Norgate, Henrietta Street, Covent Garden, to the care of their German, French, and American agents, Mr. Hartmann, Leipzig; M. Borrari, 9, Rue de St. Pères, Paris; Messrs. Westermann and Co., Broadway, New York.

The copies of *The Journal of Mental Science* are regularly sent by *Book-post* (*prepaid*) to the ordinary Members of the Association, and to our Home and Foreign Correspondents, and we shall be glad to be informed of any irregularity in their receipt or over charge in the Postage.

The following *EXCHANGE JOURNALS* have been regularly received since our last publication:

The *Annales Medico-Psychologiques*; the *Zeitschrift für Psychiatrie*; the *Correspondenz Blatt der deutschen Gesellschaft für Psychiatrie*; *Archiv für Psychiatrie*; the *Irren Freund*; *Journal de Médecine Mentale*; *Archivio Italiano per le Malattie Nervose e per le Alienazioni Mentali*; *Medizinische Ahrenlese*; *Medizinische Jahrbücher*; *Zeitschrift der K. K. Gesellschaft der Aerzte in Wien*; the *Edinburgh Medical Journal*; the *American Journal of Insanity*; the *British and Foreign Medico-Chirurgical Review*; the *Dublin Quarterly Journal*; the *Medical Mirror*; the *Social Science Review*; the *Ophthalmic Review*; a *Quarterly Journal of Ophthalmic Surgery and Science*; the *British Medical Journal*; the *Medical Circular*; and the *Journal of the Society of Arts*; also the *Morningside Mirror*; the *York Star* and *Excelsior*; the *Murray Royal Institution Literary Gazette*.

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PART I.—ORIGINAL ARTICLES.

Memoir of the late John Conolly, M.D. By HENRY
MAUDSLEY, M.D. Lond.

“Die Geschichte eines Menschen ist sein Charakter.”—*Goëthe*.

WHEN a man dies who has occupied a conspicuous place in the world's eye, there is commonly a great noise of lamentation heard, while extravagant praises are thickly strewn over the bier of the departed. Men are too deeply moved by the feeling of a great loss to weigh accurately their opinions, or to measure their words exactly; they cannot with eyes blinded with tears scan critically the features of a character, gauge its failings, and balance its virtues; and they yield themselves without restraint to the natural outburst of human sorrow, and the full flow of human sympathy. At the moment it seems as if nothing ever could compensate for the mighty bereavement which they have sustained, as if nature must henceforth wear a garb of perpetual mourning. But nature's serene features, fixed in their majestic and unchanging calm, reveal no sympathy with the sorrows of her children; the individual's loss is her gain; death is the condition of new life, and the funeral dirge the song of joy for a new conception. “Oh! how beautiful is death,” exclaims Jean Paul, “seeing that we die in a world of life and creation without end.” And so man, having his appointed and subordinate part in the great whole, and unconsciously constrained therefore by the pervading spirit, sheds his bitter tears for the painful deprivation, and in a little while wipes the tears from his eyes and goes on his way with a light heart: sorrow may be for the night, but joy cometh in the morning. Ere the name of the dead is graven in the monumental stone, the impression of him has already waned in the

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hearts of the survivors. How short a time is the loss of the most distinguished felt! When he has gone to his everlasting rest it seems that he has rightly gone, and his place is soon so filled up that he seems no longer wanted. A little while, and who thinks of the touch of a vanished hand? A little while, and who remembers the sound of a voice that is still? Life refuses to carry with it the dead body of unavailing grief; for without death in life there could be no life in death. Not less true is this in the moral than in the physical world; passions decay and become extinct, as new ones germinate and spring into activity; old interests wane as new ones wax strong, and the force of corrupt and effete doctrines is absorbed in the development of new and more advanced principles. In the development alike of individual character and of humanity, as in the growth and development of the organism and of organic life on earth, daily death is a necessary part of the history of life.

When men have got some distance away from their bereavement, and are able to look back critically upon the life and character of him whom they have lost, to see the mountain as it takes its place in the distant range, then it not unfrequently happens that the estimate formed of the man's height when close to him and standing in his shadow is found to have been a much exaggerated one, and that the reputation which loomed so great in life melts rapidly away as the years pass on: the mountain of fame may turn out, indeed, to be a very molehill, the work of certain busy creatures that had their own sinuous purposes to serve. How many a great statesman who seemed to be the main stay and support of his country, whose name was familiar to every ear, and whose praises were on every tongue, has died and not been greatly missed! Nay, how often does it happen that the death which seemed at the time to be an irreparable loss is gradually revealed to be the country's great gain, insomuch that succeeding generations come to perceive that a graven image had been set up and worshipped by a blinded people! The reputation which a man has amongst his contemporaries and that which he has with posterity, are they not often in an inverse ratio to one another? Two men, who lived and wrote at the same time, and who died with no long interval between their deaths, were Lord Macaulay and Thomas de Quincey: the death of the former was the fruitful theme for endless dissertations in newspapers, journals, and magazines, and it seemed as if the world would make no end of its grief and its laudation; a few lines in the corner of a newspaper sufficed to chronicle the death of the latter. Will the judgment of posterity endorse this strange verdict? Perhaps, when a century has passed away, and at any rate, long before the New Zealander stands on a broken arch of London Bridge and surveys the ruins of St. Paul's, no one may care much to read what Macaulay wrote, save from a literary curiosity, or from an archæological desire to dig up examples

of strong assertion and unrecking misrepresentation. But will the time ever come, while the English language endures, that men will not care to read the essays of De Quincey? There are other names might be mentioned, of which this generation has heard much, that will of a surety sound strange in the ears of posterity. But why attempt to anticipate the verdict which will in no case fail to be delivered? To give to any work a permanent vitality, or to float any name down the stream of time, there is something more needed than glaring ostentation or even brilliant artistic execution.

Though the noise made during lifetime be little, the reputation of a man who has done something original, who has served the large interests of humanity and made his life a part of human progress, must needs grow through the ages, and his name finally be enshrined in the reverential admiration of mankind. Unlike the noisy fame of those ephemeral heroes of popular approbation, whose work has been in the petty interests, the expedencies, and the chicaneries of the hour, and the day of whose death is commonly the last day of their glory, the silent influence of the work beneficial to mankind never dies; it is a monument which outlasts time, for it is indestructible, save with the destruction of the universe. Accordingly, the author of it enjoys "a lasting fame and perpetuity of praise;" he is immortal in his work. It is incident to the greatness of a truly great man that he should only be seen in his full height by the generations which come after him; and it is the steady uprising of his reputation through the ages that is the best testimony of the vital worth of his work, and the glorious compensation for the little regard which the world, intent on its immediate interests, may have taken of him during his life; whosoever does genuine work with a well-grounded hope of the benefit and approbation of posterity, with him is posterity already present, and its applause is his present reward. But when a man lives long enough to outlive a considerable temporary reputation, then may all forlorn spirits in the next world be kind to him, for he surely stands declared in this world a specious show and an unstable hypocrisy.

It may be a question whether any one who has done a really great work does not lose by what is said of him after death in the way of memoir; his work is the monument by which men may be best taught how he lived. How vain a thing is it for any one to hope to penetrate the inmost recesses of an individual character, to lay bare the complex motives of action, and to judge justly the tangled events of a life! One may perhaps form a tolerably exact appreciation of the external difficulties with which the individual has had to do battle, but who can estimate the internal force available for the struggle, who declare the strength of the internal difficulties, the enemies in a man's own nature which he has had to encounter? It is certainly a noble spectacle to see any one grappling bravely with

adversities and overcoming them ; but there is sometimes a more trying and more momentous struggle which is not seen—the secret mortal struggle with the traitorous and hidden weaknesses of one's own character. If we were always admitted to witness that contest, the seeming inconsistencies of a life would not fail to disappear, the good and bad actions to appear as fundamentally consistent expressions of the character in the particular circumstances. Because there is no such intimate knowledge possible, it happens that few among the numerous memoirs of distinguished men published convey just ideas, or even definite conceptions, of what they were ; a highly-coloured exposition of presumed virtues and the annals of a life stand for the most part in place of a true history. Moreover, the impossibility of speaking sincerely is a bar to all true biography. When a man is dead it is accepted as a maxim that, not what is true, but only what is good, should be said of him ; and, accordingly, the biographer thinks it necessary to work himself up into a fever of enthusiasm and to find no fault in his hero, but much blindness and ingratitude in the world. The price which the hero pays for this indiscriminating eulogium is the emasculation of his character ; he is made a sort of moral eunuch. How is it possible to delineate a character without recognising its failings, or to appraise the act when the driving force is ignored ? The secret of a man's strength in a particular event may be his weakness ; whosoever has great virtues will have great vices ; they are as roots and branches ; as the virtues spread out above the roots extend themselves below, and by virtues rooted in vices is maintained the stability of a character. The most unhuman of beings is he who is represented as an intolerable compound of virtues unrelieved by a single vice.

Perhaps the falsest of all biography is autobiography. As the electric fish is not sensitive to the shock which it gives ; as the viper does not feel the effects of its own poison ; so no man is conscious of his own offensive emanations, physical or moral, but deems them in his heart rather pleasant than otherwise. Any one, therefore, writing of his own life writes in ignorance of the defects which so often betray him, if he does not even regard them as peculiar virtues, and when he suffers in his collision with the world he blames adverse circumstances and bad fortune for that wherein he is himself responsible ; each one in his heart loves his own vices better than the virtues of another. Again, it is not by reflection that we are able truly to know ourselves, but by action ; not what any one has felt, and suffered, and fancied, but what he has done, is that which declares best what he was. Has he defrauded the single-hearted, what avails it to tell us of amiable sentiments and benevolent professions and sublime resolves ; his history is not written in them, but in the action. And yet when a person writes his own life he for the most part gives superfluous details concerning his sufferings, sentiments

and thoughts, while he is tempted to slur over or to pass unnoticed the deeds that do not do him credit, or at best to represent them as lamentable but unavoidable results of peculiarly unfortunate circumstances. From autobiographies, as from epitaphs, may be learnt not what the man was, but what he should have been.

It is not a necessary law that he who has done some great and good work in the world must have been without fault in all the relations of life. On the contrary, it is of importance sometimes to dissociate the public and private careers of a reformer, in order to speak with discrimination and to do him sincere justice. All the potentialities of human nature it is not possible to have developed in one man; the philanthropy which embraces mankind is apt to overlook the family, and there are not wanting examples to show that the martyr in the cause of humanity may make martyrs of those who are in daily intimate relations with him. The constitution of a reformer's mind is sometimes such as, while fitting him for the sweeping project and impetuous activity of a reform, unfits him for the calm recognition and patient performance of the humble but much exacting duties of daily life; to accomplish these most successfully, careful forethought of difficulties, minute and considerate attention to details, and duly regulated energy, are needed; but he who should foresee all possible difficulties, who should not dare to make mouths at the invisible event, and to dare greatly, and who should measure each pulse of his energy, never could effect a great work of practical reform.

Reviewing the distinguished men who have exerted a marked influence on the progress of mankind, they appear to be broadly divisible into two classes: the men of wide intellectual grasp, vast wisdom, and serene energy, and the men of limited vision, intense feeling, and impetuous energy—the extensive or many-sided, and the intensive or one-sided men. The former, taking a comprehensive survey of events, seeing in them the simple operation of natural law, recognising the character and import of existing relations, and the true value, therefore, of the present question, often exaggerated by its immediate urgency, have their feelings subordinated to their reason, and do not abandon themselves to an unrestrained impetuosity. They may do great work, but they do it, not like lightning, tumultuously, but like light, quietly and silently; the work is constructive, not destructive; and the fertilising influence of their thought is felt through many generations. The latter, on the other hand, are possessed with a conviction so tremulous with intense self feeling, that it seems the one important thing in the world to them, and they are blind to all else; they put all their energy into explosive action, which, like lightning, is destructive; and though they accomplish a good work of reform, the virtue of their thought is exhausted or discharged by the work, and they have little or no fertilising influence

on future thought. They commonly need, for the full success of their reform, some one of wider grasp of mind to come after them and build up, as they are apt to need sometimes the forbearance and assistance of others in order to conduct their own lives successfully. The narrowness of their field of vision, and their great self feeling, though beneficial in intensifying conviction and adding energy to action, by no means tend to make them amiable, considerate or self-denying in all relations. It may be thought paradoxical to say so, but it is certainly true, that the friend of humanity is often imprisoned in a narrow selfishness.

The foregoing general and discursive introductory reflections which I have drifted into, may stand as a prelude to the brief biographical notice which is to follow; though without any special fitness. Holding that the general character of a man's life is ruled by the fate which his organization makes for him, as this has been predetermined in the generations past, and by the conditions of his life, not otherwise than as every other event in nature is determined by its antecedents and conditions, it is not possible to feel any active sympathy with the biographer's passion for delineating a faultless hero. When a man is living and acting in the world, and is therefore in greater or less degree determining the present and predetermining the future, we may justly speak of virtues and vices, and proclaim moral maxims in his ears, with the hope of beneficially influencing him; but when his activity is ended by death, and the events of his life have become a part of universal history, what meaning has censure or praise? what avails it to speak of vice or virtue? In the grave there is neither repentance nor imputation. As well blame the hurricane that it does damage, or praise the sun that it shines; as well lament the vice of the east wind, or glorify the virtues of the south wind. Without doubt the reply will be that the moral of the dead past is the lesson of the living present, and most useful to those who are engaged in the momentous task of making the future. It is a truth which cannot be gainsaid; but what detracts very much from its practical value is the desperate insincerity and extravagant hyper-laudation of biographers, who will, human imperfection notwithstanding, find in their heroes all the qualities which they admire, and no quality which they do not admire; forgetting, the while, that all sorts of men go to make mankind, and that the potentialities of humanity never are realised in one man. The falsification of all biography is the price paid for this passion for setting up as a great and worthy example every life which is thought worthy of being written. The aim that should more justly be had in view in biographical memoirs is to set forth as faithfully as possible the order of events, and to display them as results of the inter-action between the individual character and the circumstances in which it was placed.

I.

For the present task the scantiest materials are available; for, with the exception of a few facts concerning his childhood, roughly jotted down some years ago on loose sheets of paper, it is doubtful whether Dr. Conolly left any record of the events of his life. At any rate, it has not fallen to the lot of the writer to search for it, if any such there be, and had any memoirs fallen in his way, he certainly should have left the dealing with them entirely to other hands. The public events of Dr. Conolly's life are recorded where every one who will be at the pains to search for them may find them, and I only bring them hastily together here under editorial obligation, because it seemed fitting that some memoir should appear in this Journal of one who had done so much and gained so great a reputation in our special branch of practice, and because no one with more love for the task has so far presented himself. The public events of his life and a few personal recollections will constitute the present contribution.

Here, then, may properly come what he has himself written of his parentage and education:

"My father was a younger son of a good Irish family, and died too early to leave any distinct impression upon my memory. He had been brought up to no profession; had no pursuit; died young; and left three boys dependent on their mother, whose maiden name was Tennyson. My eldest brother was adopted by my grandmother Tennyson; the youngest was adopted by another relative; it was my good fortune not to be adopted by anybody, and my early days were passed with little comfort, but eventually with more advantage than the early days of my two dear brothers.

"I was born in the house of my grandmother Tennyson, in the small town of Market Rasen, who lived in a small house opposite the east end of the ancient church.* She was the widow of William Tennyson, of Barton-upon-Humber, who was long remembered in Lincolnshire for his high character. I fear I was an inconvenient superfluity in the family, for whom nobody cared, except my affectionate mother. We had some distant relatives in Holderness, and the result was that I was placed as a boarder, before I had completed my sixth year, with a somewhat old widow lady at Hedon; and my formal education commenced in the second week of the first year of the present century, in the small grammar-school of the decaying Borough of Hedon." * * * *

"The memory, so treacherous in middle life of events of recent years, and so retentive of events and impressions of those of older date, still recalls, in my own instance, my being taken from Wyton Hall on the 9th day of January, 1800—my last view of the drive past the old trees, the gardens,

* Ralph Tennyson, his maternal great grandfather, died 1735, leaving two sons: Michael Tennyson his great uncle, and William Tennyson his grandfather. Michael Tennyson's son, George Tennyson, was the father of George Tennyson, D.D., and the grandfather of the Laureate; while the second son of Michael took the name of D'Eyncourt.

and all the characteristic objects of the house of an English gentleman, of all which the boyish mind has an unexpressed appreciation; and I also remember the cheerless impression ensuing from what seemed a descent from tranquil and comfortable life to the commoner arrangements inseparable from school, and to the society of a lower social kind, where nothing was tasteful, and nothing was beautiful, and nothing was cheerful. Antiquated residences, rooms of which chairs and tables constituted all the furniture, shabby neglected gardens, coarse or common companions, and general neglect of all that could promote happy feelings, were productive of a kind of desolation neither expressed nor quite understood. The same kind of objects and circumstances have, in all subsequent years, always produced the same uncomfortable feelings.

"For seven years of school life at Hedon my daily life, except in holidays of three weeks at Midsummer and Christmas, was unvaried. Before nine in the morning I repaired to the school-house on the market-hill, on a spot where some trees are now planted. At nine the schoolmaster's awful figure appeared round the corner near the church, and on his entrance I exhibited Latin exercises, written the evening before, and repeated a page or more of the Eton grammar, and construed a portion of whatever Latin author I was advanced to, or of the Greek Testament. Between eleven and twelve I construed a second lesson. At noon there were two hours unemployed, except by a frugal dinner, and more abundant play. In the afternoon more construing lessons, or, once in the week, a writing copy and some arithmetic. In all these years my schoolmaster, the vicar, never, that I remember, gave me any assistance, except by blows on the head. I read in the usual order, 'Cornelius Nepos,' a book or two of 'Caesar's Commentaries,' and was then promoted into poetical reading, and at the returning holidays was enabled to inform my few inquiring friends that I was in Ovid and Virgil, and latterly in Horace. Of the absurdity of such reading nothing need be said. I read with difficulty and understood nothing. I was not allowed to read an English lesson. Of the Latin authors I remained profoundly ignorant, never, I believe, except on two occasions, having even a glimmering of their meaning; one being when rather interested with the structure of a bridge over the Rhine, and another when rather excited by the catastrophe of Phaeton, on which latter occasion the exuberance of my feelings was promptly rebuked. After my school years I now and then saw my revered schoolmaster; he was tall, stout, round-faced, full-voiced, bluff in his manners. His days after leaving St. Bees' had been passed in small country places, and I never had reason to think that he ever read books. In the use of the cane and in the application of a kind of leather battledoor to the palms of the hands he was expert.

"At the Latin desk in the Grammar School of Hedon there were, I think, but seven scholars in the years between 1800 and 1807. Two were the grandsons of the doctor then practising at Preston; two were the grandsons of the squire whose good old house still faces the avenue at the end of the town as you go to Burstwick; one was a lively apprentice of the Hedon doctor, and came only occasionally when he had made up the medicines for the day; and one was the eldest son of a substantial burgess of Scotch extraction, I being the seventh. We formed, I believe, a little aristocracy in the eyes of the other scholars; and I found we were remembered, and the Latin desk, by the sexton, forty years afterwards, when I was puzzling him by evoking recollections with a skill he could not account for until I mentioned a name unheard by him since the days when he was at school; he being a freeborn of the borough and educated gratis, as were, indeed, all my Hedon schoolfellows except the Latin students, who were, like myself, the sons of poor gentlefolks.

"There were, indeed, in those days, few schools in all Holderness, and none so distinguished as that of Hedon: so that some half-dozen *girls* received instruction there in reading and writing. Their studies seemed rather troublesome to the master, who decreed that I, whom he regarded as a somewhat accomplished reader from the south, should be referred to in all verbal difficulties, thus giving occasion to many journeys on the part of the young ladies to my end of the Latin desk, and some innocent flirtations and looks from gentle eyes now dim like mine.

"The daily dulness of the school was somewhat relieved on Saturdays, when part of the morning was apparently designed to prepare the minds of the scholars for Sunday. The boys were arranged in a circle, and the master moved about in the middle of it. The catechism was gone through, its questions asked sonorously, and the answers given in varied tones, more or less unmusical, and for the most part mechanical, and none of them were remarked upon or explained.

"Sunday brought relief from the daily word-lessons and from the six hours' confinement in the atmosphere of the school-room. The seven o'clock morning church-bell announced the quieter seventh day; decent clothes were brought out of strange chests, the Sunday hat was brushed, and at eleven I was placed generally alone in the pew of my lately deceased great uncle, Michael Tennyson, an honour done to me, I scarcely know why, both here and at the neighbouring church of Preston, for the vicar took care of the souls of the parishioners of both Hedon and Preston. There was one service at each place every Sunday, alternately, in the morning and afternoon; and it was a great relief to me when I grew old enough to be allowed to attend the services in both places. In the other hours of Sundays I was expected to read the Bible, which I did without the remotest conception of localities and dates, an unhappiness still not unfrequent with early readers, and productive of inconveniences not easily remedied afterwards.

"The state of social life in a very small town, far away from London, in the beginning of this century, afforded little opportunity for the acquirement of varied knowledge or for any kind of mental recreation. I can scarcely now believe what I too painfully remember; I could even now walk through the tranquil street (for there was but one), and name the occupant of every house at that time, on the right hand and the left: the lawyer, the tanner, the glazier, the tailor, the shoemaker, the innkeeper, the butcher, the farmer, the carrier, the blacksmith, the joiner, the sexton, besides the vicar, the two landed gentlemen, the doctor (there being but one), and the retired doctor who now and then asked me to spend Sunday with him and his family. This, and other occasional visiting, was so inconsistent with my daily wretched life, that I think it made me rather distracted than comfortable.

"Reflecting often on this barren portion of my existence, the tenth portion of the years allotted to man, it has often been a question with me whether the years from six to sixteen are usually so profitless and unhappy; they are evidently not looked back upon with particular affection by many men. The fondest recollections of them which have been expressed in prose or fanciful verse, are not attractive to readers of my age, and their praises seem at the best to have been recorded in proportion to the boyish character remaining in the writers.

"When, in maturer years, I have heard orthodox men in English provinces declaring to country gentlemen and doctors, over excellent port (now extinct) the great importance of a classical education, I have seldom dared to confess the imperfection of my own; when they have vehemently asserted its salutary subjugation of the mind, I have only assumed that the days of their youth had been more happily ordered than mine; and when, even now, a sexagenarian, I derive not unfrequent delight from the philosophical

writings and letters of Cicero, I sometimes regret that I had not the admirable explanatory notes which now illustrate school-books, and with the aid of which young readers may be pleased as well as instructed; and, if sometimes I find recreation in a page or two of Horace, I can but more and more be surprised that the philosophic and witty poet should have ever been made a school-book at all. I painfully remember the hours when, inexperienced in the world and its social or vicious ways, I had to translate compositions as witty and abounding in allusion to the gayest doings of ordinary life, and as elaborately elegant as those of Moore. To place Horace in the hands of an English boy seems as absurd as it would be to attempt to teach a Chinese boy our language by insisting on his reading the *Fudge Family*. Perhaps all this is changed: perhaps not all."

In this description of his school life we have a picture of what was the universal system of education some years ago; and though it was undoubtedly harsh, pedantic, and altogether defective, yet it must be remembered in its favour that under it were trained men whom their posterity have yet to show that they can surpass. It is not so much the quantity of knowledge which can be crammed into a boy's head as the discipline to which he is subjected, and the lessons which he unconsciously learns, that best prepare him for the hard walks of life. Life is not a gay walk through a pleasure garden, but rather a stern duty, the paths of which are often obscure and painful, and where on the whole there is more to be endured than enjoyed; and the severe school-training which prepares a boy for the inevitable harshness of life, though causing suffering at the time, may diminish the sum of future suffering.

To Conolly's gentle nature such Spartan training was plainly intolerable and unprofitable, and the memory of it horrible sixty years afterwards; whatever good there was in it could not be assimilated into his nature; between his character and such discipline there was a complete repulsion. Had there happily been less repugnance some of the difficulties and trials of his subsequent life might not improbably have been avoided or lightened. But through life it may be questioned whether he ever did accept sincerely the inexorable laws of the universe: he delighted in the songs of birds, in the blossoming of trees, in genial social intercourse, in the amiabilities of human nature, in the elegancies of human life, in the graces of literary style, in the triumphs of benevolence; but he never seemed heartily to recognise or accept the stern and painful necessities of life; he so loved the gentle that even earnestness and sincerity, when rudely displayed, were distressing; he was not unamenable to the flattery which made things pleasant, and acutely pained by the harsh truth that laid bare their real relations when they were not pleasant; he shrunk from the task that was painful to him because involving pain to others, and would endure much needless imposition rather than deliberately face a difficulty and apply the effectual remedy; he would sacrifice his own serious interests rather than renounce a

gratification which appealed strongly to his benevolent emotions, and could not tolerate a practice which was abhorrent to his fine sensibilities. Such being his nature, it is easy to imagine how painful to him were his reminiscences of school, and to understand the earnestness with which he reverts to the cast-off griefs of his childhood. What education he did get under circumstances so unfavorable to him must have been of the most desultory character; the only valuable training which his school-life could have given not being at all assimilated. The advantage of the modern system of education is, it may be presumed, that it has regard to the individual character of the boy, and does not apply the same fixed rule to all, but strives to educe or bring out and direct those gifts or capabilities of nature which in one way or another declare their tendencies and in the long run do actually educate him, if they are not directly counteracted.

On leaving school Conolly appears to have lived at Hull with his mother and father-in-law for a time, until a commission in a Cambridgeshire militia regiment was obtained for him. He joined his regiment at Peebles in the year 1812, when he was only eighteen years old, and served with it in different parts of Scotland and Ireland. To this part of his life he was wont frequently to recur with lively and pleasant recollections. No wonder: he was just at that age when life bursts forth into blossom, and when the mind expands with the growth of new ideas, and thrills with new feelings, as the body develops into full vigour; he was delivered from the tedious thralldom of school, and was yet unburdened with care or thought for the future; he was associated with many lively companions at a time when a person abandons himself to the pursuit or enjoyment of the day or hour as he never afterwards abandons himself. To one who ever lived willingly in the present joy, and who had a passionate love of genial social intercourse, it could not fail to be a happy time. And as one is apt in the pleasant retrospect to overlook the little miseries which seemed not little at the time, and in the present to forget the real good because of the urgency of the daily little miseries, every one is sufficiently apt to do what Dr. Conolly was not unapt to do, namely, to praise the past at the expense of the present, in fact, to make praise of the past an indirect way of grumbling at the present. It may justly be doubted whether the experience as officer in a militia regiment at that time was at all calculated to correct the deficiencies of early training; whether it was not rather adapted to establish habits of feeling, thought, and action, not the most favorable to the future conduct of a professional life.

An event which happened soon after leaving the militia indicates a character which, fervid and vivacious, was apt to do serious things in an impulsive way: when only twenty-two years of age, and when yet without profession or any permanent means of livelihood, he married, his wife being a daughter of Sir John Collins,

a captain in the navy. Immediately after his marriage he went with his wife to France, and settled down for a time in a cottage near Tours, in which town his brother, Dr. William Conolly, was then in practice. In this most pleasantly situated cottage, where the poet Béranger afterwards lived, he passed a happy year, the memory of which remained as a poetical episode in a life of many vicissitudes. He was frequently visited by his brother and by friends from Tours; and when the contents of the cellar, which had been purchased from his predecessor at a rough valuation, were explored, some excellent wines of unknown vintage were discovered. The pleasantest social intercourse in the most poetical of cottages, agreeable mental exercise in the desultory study of French literature, and the fresh delights of a marriage made before the illusions of life were got rid of, how could the days be more full of happiness? Unhappily this could not last: a small capital when used as income cannot fail to be soon exhausted, and when there is no prospect of replenishment from any quarter, it becomes necessary to take leave of the poetry of Eden, and to set seriously to work to the prosaic work of providing bread. Moreover, a child was born, and with it came many new anxieties. After consulting with his brother and friends, he determined to commence the study of medicine, and no sooner was the resolution come to than he started with his wife and child to Edinburgh, and put it into execution. There was great energy of an impulsive kind in his character, but the anxious foresight and deliberate self-renunciation calculated to prevent the necessity of convulsive exertion, and the patient tedious labour necessary to carry an event to its best issue, were scarce so congenial to his nature. It may easily be imagined that it was no pleasant thing for one who was married, and who had lived the thoughtless life of a militia officer, and the pleasant life near Tours, to enter himself as a medical student on equal terms with the youths of a northern capital, and to go through the dreary work of medical study. It was faithfully done, however, and in 1821 he graduated as a doctor, having taken for his thesis the subject of insanity, and for its title, '*Dissertatio Inauguralis de Statu Mentis in Insaniâ et Melancholiâ.*'

When any event in the boyhood or youth of an eminent man can appear to have any relation to the subject in which he has become distinguished, there is a strong tendency to perceive in that event the clear prophecy of the future. Without doubt there has been some dim foreshadowing, in the unsearchable counsels of nature, of the direction of future development; but it is idle to suppose that the individual had any preconceived design of the scope of his future life, or was at all conscious of the wide-reaching import of the obscure impulses which instigated him. The foresight of a god would scarce suffice to inspire the far-reaching and complex designs which critics after the event frequently attribute to the man who has done great

things and gained a great position in the world. It were truly a most disheartening thing for ordinary mortals, struggling blindly in the weltering chaos of circumstances, and tossed about in manifold fluctuations, if such clear foresight were possible. But it is not. Let a man's genius be never so great, its best work is unconsciously done; what he thinks great at the time is often the least, and what at the time he thought little of, or was scarce conscious of, is that which, as he surveys calmly the events of his life, he perceives to have been the greatest, that to which he has owed most. Those who assign him a fore-ordaining power and providence do not otherwise than as they do when, giving a choice to the wind, they say that it bloweth where it listeth; and, like Peter, proposing to build the tabernacle, they 'wist not what they say.' But beneath the individual's will, and beneath consciousness, deep in his nature, there is an instructive craving for that which is most suitable to his development, a blind impulse towards that direction in which his character may attain its fullest evolution. It is this which, as an anchor, holds the man to his own native centre fast, amidst the sundry changes and shifting circumstances of a troubled life. It is this which inspires him with the faith in himself, and endues him with the strength of individuality, which enable him to endure and persevere; seated at the helm of his nature, it steers his course with a guiding hand, which neither he nor others see, but whose impulses he feels and obeys. If a man have the capacity of great deeds in his nature let him, therefore, trust his instincts; if he must painfully calculate, anxiously precontrive, and minutely plan, then he would do well to betake himself to some course of life in which he may never have to do what some one else has not done before him.

Though we may consider it certain that when Conolly selected insanity for the subject of his graduation thesis he had no design of making it the field of his future activity, yet the selection was the indication of an inclination to the study of mental phenomena, which, indeed, failed not to display itself many times before he found the true sphere of his labours. Dugald Stuart was at that time Professor of Moral Philosophy in the University; and it was the eager ambition of Conolly, though the desire was never gratified, to become privately acquainted with one for whom he felt a remarkable admiration, and whom his exaggerated reverence invested with a sort of heroic halo. One of his friends among the students, an impassive matter-of-fact mortal, who doubtless thought philosophers very much like other men, had this honour which he coveted so much, and him he used eagerly to question of the conversation and habits of the philosopher; but all the reply he could ever get was, "Ech! he just talks awa." This trivial circumstance of his student life I have often heard him laughingly tell; and I mention it here for two reasons, first, because it may serve to mark the bent of his mind

towards mental philosophy, and; secondly, because in the standard of his hero there is the measure of his intellectual sympathy at that time.

II.

On leaving Edinburgh Dr. Conolly went to Lewes, with the design of settling in practice there; but after three months' experience of that sleepy town he removed to Chichester, where about the same time the late Sir John Forbes had established himself. Though rivals in practice for a time, and though it was soon evident that they could not both remain in Chichester, they became great friends, and remained so till death parted them. Conolly was the greater favorite in society; his courteous manners, his vivacity of character, and his general accomplishments, rendered him an agreeable companion; and he was not restrained by the gravity of the physician from joining heartily in the dances to which he was often invited. Forbes, on the other hand, being less polished in manner, and of somewhat reserved character, not being, indeed, apt to make many friends, though a most firm and sincere friend of the few which he had, was not so popular in society, but, as may perhaps be supposed, was more consulted as a physician. Accordingly, after he had been a year in Chichester, Dr. Conolly removed to Stratford-on-Avon, where he practised between five and six years. There he seems to have been fairly successful; he was twice mayor of the town; and being a reformer by nature and a hearty liberal in politics, ardently devoted himself to the furtherance of every measure of progress. He was on terms of close friendship with the then celebrated Dr. Parr, the great Whig champion, who lived near, at Hatton, and who has been so noted for his severity as a schoolmaster. Of him Dr. Conolly retained a great admiration, and was wont to relate many interesting anecdotes, most of them forgotten by me; but though they certainly tended to exhibit marked peculiarities of manner and great violence of temper in the despotic tyrant of the school-room, they conveyed the impression of a real kindness of heart, genuine sincerity, and a truly liberal mind—a different impression from that which we owe to the marvellous subtlety and ingenuity of De Quincey's partisanship. Pompous, vain, passionate, and dogmatic Dr. Parr certainly was. From the long habit of flogging boys at will he seems to have acquired, as schoolmasters are apt to do, a misapprehension of his actual relations in the universe, and the manner of treating the world from the height of a pedagogue's chair. One of his practices was to have his pipe brought to him immediately after dinner, and to insist upon the prettiest young lady at the table coming to sit by him and light it for him. When he was playing whist, as he was fond of doing after dinner, and was not getting on very successfully, if any one asked him how he was doing, he would reply, "Pretty well, considering that I have three adversaries;" and

when his wife offended him, he turned her picture, which was in the dining-room, with its face to the wall; nay, if we may accept De Quincey's information, actually on one occasion cut her throat in effigy, by cutting its throat with a carving knife. His great ambition, which he ultimately gratified, was to have a coach and four to drive about the country in; and of this he was wont to speak as "Mrs. Parr's vanity." But Dr. Parr had the truest sympathy with liberal ideas, at a time when such sympathy was not so common and was a less easy virtue than it is now; he never for a moment hesitated to sacrifice his own worldly advantage in the cause of honest conviction; and his genuine goodness of heart thoroughly justified the exclamation which is forced even from De Quincey, in the full swing of his critical condemnation—"Sam Parr, I love thee!"

While at Stratford-on-Avon Dr. Conolly accomplished much literary work, both in professional and other journals, and gained for himself considerable reputation. Accordingly, he was appointed in 1828 Professor of the Principles and Practice of Medicine at University College, chiefly through the influence of Lord Brougham, and thereupon moved to London, taking a house in Gloucester Place, Portman Square. But his life as a physician in London was not on the whole successful; patients did not come to him in sufficient numbers, while great expenses did surely come; there was no hospital in connection with the College; and the lectures delivered by him, being diffuse and theoretical rather than concise and practical, were not great successes, if they were not in truth failures. His introductory and farewell addresses were published by him in a small volume; but the perusal of them will scarcely fail to strengthen the tradition of the somewhat vague and discursive character of the general course. It was while holding his appointment as lecturer at University College that he published his work on 'The Indications of Insanity,' and made a strenuous attempt to effect arrangements for giving instruction in mental diseases and for gaining access, on the part of medical students, to the wards of the London asylums; but he says, "In that busy period of agitation and movement more important matters occupied the attention of the distinguished founders of the University, and I could not obtain attention to this suggestion." More than thirty years have passed away since that attempt was made, and yet only last year the Senate of the University of London, whose serious consideration of the subject I was able to obtain, was compelled to refrain from issuing compulsory regulations enforcing a clinical knowledge of insanity from candidates for degrees, solely by reason of the want of adequate means of clinical instruction; with the best desire to do everything possible in the course that was pressed upon it, that body has been obliged to be content with announcing in the calendar the importance which

is attached by the University to a knowledge of insanity, and with accepting three months' attendance in an asylum instead of three months' hospital practice. When we reflect on how little has been done now, and not done without considerable labour and perseverance, we may better appreciate the value of the attempt made more than thirty years ago.

While resident in London at that time, Dr. Conolly was a very active member of the "Society for the Diffusion of Useful Knowledge." The following extracts from Charles Knight's 'Passages of a Working Life' will serve to indicate the assistance which he rendered to the Society—

"The Useful Knowledge Society had, in November, commenced the issue of a small series entitled, 'The Working Man's Companion,' to be published occasionally, at the price of a shilling. The first volume, chiefly prepared by Dr. Conolly, called 'Cottage Evenings,' was commended by Dr. Arnold for 'its plain and sensible tone;' but he is hard upon what he calls its 'cold deism.' He is equally severe upon 'the folly' of a little monthly publication, conducted, I believe, by a divine, who was afterwards a bishop, —'The Cottager's Monthly Visitor.' * * * * *

"In the series of the 'Working Man's Companion,' we did not neglect the occasion for combating popular errors of a social character, of inculcating the great private duties of cleanliness and of temperance as regarded ourselves and our families, and of active benevolence and sympathy for our fellow-creatures.

"Dr. Conolly's little book on cholera was a model of what a popular treatise on the preservation of health ought to be—not leading the delicate and the hypochondriacal to fancy they can prescribe for themselves in real illness; not undervaluing medicine, but showing how rarely is medicine necessary when the laws of nature are not habitually violated. Of the fatal epidemic that had come amongst us, this wise and kind physician spoke with confidence of its speedy removal, under God's providence, in a condition of society where the principles of cordial brotherhood should more prevail than the miserable suggestions of selfish exclusiveness, where, in fact, the safety of the upper classes depended upon the well-being of the lower. * *

"The aid which Dr. Conolly rendered to the diffusion of knowledge was not special or professional. In those departments of what we now call 'social science,' which include the public health in its largest sense, his experience was always working in companionship with his benevolence. In 1831 we were united in the production of a series which was directly addressed to the working classes. Dr. Conolly brought to this useful labour—of which I shall have to make more particular mention—a lucid style, and an accurate conception of the true mode of reaching the uneducated. 'Be thou familiar, but by no means vulgar,' is as good a maxim for a popular writer, as for a young courtier going forth into the world, to deal with all sorts and conditions of men."

As an active member of the Committee of this Society, he was brought into frequent intercourse with Lord Brougham, for whom through life he entertained a great and sincere admiration. The Committee used to meet monthly, when there took place a plain English dinner, at a moderate fixed charge, at five o'clock, there being a subscription for wine. Dinner was over in about an hour,

and then came two hours of solid business, the chair being generally filled by Brougham; and, in his rare absence, by the treasurer, Mr. W. Tooke, or the vice-chairman, Lord John Russell. The life and soul of the Society was unquestionably Brougham; of his quick and direct insight into the heart of a question, his wonderful energy and his admirable practical talent for business, Dr. Conolly retained an admiring recollection, and he used sometimes to recall in particular the exuberant spirits in which Brougham appeared at the Society immediately after his memorable and successful contest for the West Riding.

Three years' experience of life as a physician in London were not so encouraging as to induce Conolly to persevere; he resigned his appointment at University College, and retiring to the provinces, selected Warwick for his abode, as being in a neighbourhood where he was already well known—for Warwick is only eight miles from Stratford. Here he continued active in literary work, writing many articles for the 'Cyclopædia of Practical Medicine,' which he edited in conjunction with Dr. Forbes and Dr. Tweedie; and establishing and editing, in conjunction with Dr. Forbes, the 'British and Foreign Medico-Chirurgical Review.' It is interesting to observe that the first number of that journal contains an account of the releasing of lunatics from their chains by Pinel in France. He was one of the original founders, in 1832, and an active promoter during its early years, of the "British Medical Association," and at the third meeting held in Birmingham he delivered the anniversary address. His interest in the Association continued, and he regularly attended its meetings until within the last two or three years of his life.

After he had been six years at Warwick, struggling with difficulties, though much esteemed and assisted with a rare generosity, the physicianship of the Hanwell Asylum became vacant, and he, whose inclinations had always leaned towards the study of insanity, made application for the office, not much encouraged thereto by his friends, who regarded such a step as the suicide of reputation and the confession of complete failure in life. On this occasion he failed, the casting vote of the chairman having determined the election in favour of Dr. Millingen, the author of 'Curiosities of Medical Literature.' Another rising gleam of hope darkened; the outlook into the future black as ever; family cares increasing; and life gliding quickly on! One change more must be made, if not with hopeful expectations, yet in desperate resolve to try whether the destinies had not some place of success for one who had worked faithfully and energetically in many fields of practical activity, though hitherto with little benefit to himself. Accordingly he removed from Warwick to Birmingham, but he had not been there a year before the physicianship of the Hanwell Asylum was again vacant. He again made

application for the office, and this time was happily successful. The grim destinies had not, after all, forgotten him.

Now, at last, after going through much tribulation and many uncertain wanderings, without aim and without rest, he had reached the true sphere of his labours and the definite aim of his life ; he was placed in a position in which not the virtues *only* of his character, but even its failings, in some measure conspired to the success of the great work which he undertook and accomplished. Life was no longer the dissipation of energy in manifold straggling activities, but its whole energy was concentrated in definite action in a definite direction. Happy the man who thus finds his limitation in life, and wisely making the dark horizon of necessity the bright circle of duty, sets all his energies systematically to work within the compass of his capacities ! As soon as he has found the little which it is appointed in the mighty plan of nature for him to do, and recognises the vast amount which it is not appointed for him to do, he is warranted to do something which no one else can do as well, to make the best of himself and secure the truest success of his life. How well does Conolly's life illustrate this ! Without conscious design of his own, driven by the necessities of failure arising partly out of defects of character, he is borne by the waves of a tumultuous life in which he had many times been well nigh wrecked on to a shore where the instincts of his nature had obscurely pointed, and where he finds at last a sure footing. Henceforth his life is a success ; no more time and energy misspent in cultivating talents that never could be brought to perfection, and in vague activities which, though benevolently aimed, were practically aimless, but the whole energy of his character definitely employed for a definite end. That meant *success* in his case as it means success in any case ; on the crest of the wave which he raised and rode he was carried to great fame and moderate prosperity. There can be no doubt that his worldly prosperity might have been much greater than it ever was, had he had the desire to become rich and cared to take the trouble to work for that object. But he was satisfied if he had sufficient to meet the present wants of his family, and was content to leave to others more worldly prudent the chief pecuniary reward of his great reputation.

III.

It was on the 1st June, 1839, that Conolly entered on his duties as resident physician of the Hanwell Asylum ; and on the 21st September of that year he presented his first report to the visitors, in which he announced the entire abolition of mechanical restraint. "No form of strait-waistcoat, no hand-straps, no leg-locks, nor any contrivance confining the trunk or limbs or any of the muscles, is now in use," he writes in that report. For this great practical reform he had prepared himself before entering on his

duties by a visit to the Lincoln Asylum, and a study of the non-restraint system there inaugurated and in practical operation. "The example of the Lincoln asylum, in which no patient has been put in restraint," he writes, "for nearly three years came also powerfully in aid of an attempt to govern the asylum at Hanwell by mental restraint rather than by physical." In the face of much prejudice and many obstacles, the direct opposition of open enemies, the doubts of friends, and the machinations of secret ill-wishers eager for its failure, he steadily applied the humane system of treatment throughout the asylum, which then contained 850 patients suffering from every form of acute and chronic insanity. After an experience of three years in the entire disuse of mechanical restraint, it was established beyond all dispute "that the management of a large asylum is not only practicable without the application of bodily coercion to the patient, but that, after the total disuse of such a method of control, the whole character of the asylum undergoes a gradual and beneficial change."

Conolly was not, nor did he ever claim to be, the actual originator of the humane system of treating the insane, and of the abolition of every form of mechanical restraint. "In every step that he has taken," he writes, "your physician has but been acting on the principles laid down in the pages of Pinel and Esquirol; extending their application a little, and leaving out a few of what appeared to be old errors still adhering to the systems of those accomplished and philanthropic physicians. As far as possible from the wish to surprise by a sudden alteration of treatment, he has but preserved and carried a little further the best parts of a treatment already established and known to every medical man of education." It was in 1792 that Pinel, having by much perseverance obtained the sanction of the authorities, released fifty-three lunatics from their chains in the course of a few days, and thus inaugurated the humane system of treatment which was further developed by Esquirol. It was in 1796 that the Quaker's Retreat near York was founded on the humane principle of improving the treatment of the insane, and rendering it as little painful as possible; Mr. William Tuke having brought the proposal before the quarterly meeting of the Society of Friends in March, 1792, and perseveringly enforced it until it was carried into practical operation. The history of the foundation of the Retreat and of its early years must ever be a lasting honour to its benevolent founder and to the society of which he was a distinguished member. At the Lincoln Asylum the influence of Dr. Charlesworth, the benevolent physician, was steadily exerted for years in the amelioration of the treatment of the insane by improving the means and lessening the amount of mechanical restraint. In 1829 it was ordered "that the use of the strait-waistcoat be discontinued in this institution, except under the special written order of the physician

of the month." In November of 1830 not one patient out of forty-eight was in restraint, although instances of restraint occurred after that date. In 1835, the board of the asylum, giving a testimonial to their retiring house-surgeon, Mr. Hadwen, "express their high approbation of the very small number of instances of restraint which have occurred amongst the patients under his care." In 1836 the chairman reports that "out of thirty-six weeks that the house-surgeon (Mr. Gardiner Hill) has held his present situation, twenty-five whole weeks (excepting two days) have been passed without any recourse to restraint." In the report of the asylum for 1837 occurs the following passage:—"The present house-surgeon has expressed his own belief, founded on experience in this house, that it may be possible to conduct an institution for the insane without having recourse to the employment of any instruments of restraint whatever." And in 1838 the governors say in their report:—"The bold conception of pushing the mitigation of restraint to the extent of actually and formally abolishing the practice mentioned, in the last report, as due to Mr. Hill, the house-surgeon, seems to be justified." Such is the concise account of the history of the origin of the modern humane treatment; but it is not the complete history, Though many reasons might doubtless be given to prove that this great movement, the deep origin of which was, perhaps, in the great uprising of human feeling and the heaving of human thought which took place at the time of the French revolution, would have gone on to a successful issue, whether Conolly had appeared or not, yet it can admit of no question that its progress would have been vastly retarded. At the hour of its special need it was pathetically advocated and eloquently defended by his facile pen, and finally guaranteed as practicable and effectual by triumphant success in practice on a scale so large as to silence all cavilling. The reputation which he had when he became physician to the asylum, its close proximity to London, where his work could not fail to excite attention, his great literary faculty and long experience of the press, combined to force the question into general notice, to arouse public sympathy, and to bring himself to the front as the energetic champion of the reform. He not only enforced a certain improved system of practice, but he expounded the humane and scientific theory of it, and set forth eloquently the wide-reaching and beneficial consequences of its adoption. He not only made the hitherto obscure movement a world-known success, but he made reaction impossible. Justly, therefore, is his name associated with this noble work of progress; his life justly identified with this glorious chapter of human development.

Those who may be inclined to think it a happy accident for Conolly that he should have had so great an opportunity at such a critical time, might call to mind with advantage the events of his

life up to this point, and reflect how much energetic work in the cause of progress he had done, how constant and zealous in the reformer's part he had always been, without any happy accident of favorable occasion. Bringing to his work, again, the weight of his former reputation, the accumulated force of the good work which he had previously done, he was able to attain to a success which a man less known might probably have failed to obtain. It is not the single spasmodic effort that will make an eminent reformer; the sustained energy of a life, the long series of efforts that are the spontaneous expressions of the individual character, a few only, perhaps, visibly reaching their aim, where many seem to fail—this is the foundation of success. You make, in hot zeal, a vigorous exertion to promote the good of mankind, and it fails; or, more trying still, succeeds, and you get no benefit from it, while others do! Very well! is that a sufficient reason why you should despair, and “strike” work? Is the universe under any contract to pay you a particular sum at a particular time? The wages which you have earned, good or bad, you will in no case fail to get. But it is not the way of nature to bribe the indolent or faint-hearted into doing their duty; and the miserable atom, morbidly conscious that he is a self, is very apt to be one of the germs that she does not care to foster—one of the fifty seeds she does not bring to bear. But he who, with wiser spirit, does his little work manfully and trustfully, and calmly and constantly as the law of gravitation, cannot miss the reward of his well-doing. Nature has no memory, because she never forgets; the past is continually in the present; on every moment hangs eternity, on every act immortality.

“Man sät nur man erntet mit der Zeit.”

The remaining events of Dr. Conolly's life I must pass quickly over. He resigned his appointment as Resident Physician to the Hanwell Asylum, in 1843, though he acted for some time afterwards as visiting physician, and delivered clinical lectures to students, who attended from the London schools of medicine. From the time of his resignation until his death, he resided at Lawn House, in the village of Hanwell, having a large consulting practice in town until the last few years of his life, when, on account of failing health, he retired from active professional occupation. He was, in conjunction with the late Dr. Reed, the founder of the Idiot Asylum at Earlswood, and ever an active supporter of it; and he made a strenuous but unsuccessful attempt, in 1846, to establish a public asylum for the middle classes, near the metropolis—an object which he always had much at heart. His principal published works were ‘An Inquiry concerning the Indications of Insanity,’ 1830; ‘The Construction and Government of Lunatic Asylums,’ 1847; ‘The Treatment of the Insane without Mechanical Restraint,’ 1856; and

'A Study of Hamlet,' 1863. Besides these works, he published in the 'Lancet' his lectures on insanity, and many papers at different times in the 'Medical Times and Gazette.' In this Journal, also, in the establishment of which he took a great interest, will be found various papers by him, on subjects of practical interest to those engaged specially in the care and treatment of the insane. He delivered the Croonian Lectures at the College of Physicians, and lectures on different occasions at the Royal Institution, on insanity. Soon after his resignation at the Hanwell Asylum he was presented, by public subscription, with a massive testimonial in silver, consisting of an allegorical group of figures representing the abolition of mechanical restraint in the treatment of the insane, and with his portrait painted by Sir Watson Gordon. The honorary degree of D.C.L. was conferred upon him by the University of Oxford, at the time of the meeting of the British Medical Association in that town.

As a practical physician, Dr. Conolly did not specially distinguish himself, either in the exact investigation of disease, or in its treatment; he had little faith in medicines, and hardly more faith in pathology, while the actual practice of his profession was not agreeable to him. I have often heard him say, that if his life were to come over again he should like nothing better than to be at the head of a large public asylum, in order to superintend its administration. His education, general and medical, had been somewhat desultory, and his reading throughout life was desultory also; he could not easily set himself patiently to master an author with whose style and sentiments he did not sympathise, or deliberately to acquire a complete knowledge of a subject that was not attractive to him. As a medical author on general diseases, his writings, though of easy and elegant composition, will be found to be somewhat vague and diffuse, wanting in exact facts and practical information—the faults felt so much in his lectures at University College. As a writer on insanity, he painted eloquently and pathetically the external features of the disease, but the philosophical depths of mental phenomena he never cared to sound, and the exact scientific investigation of mental disease he never systematically devoted himself to. Esquirol was the author whom he studied at the beginning of his career, and on him he confessedly relied almost entirely to the end of his life. As a writer on general subjects, he is best known by his 'Study of Hamlet;' the criticisms in this elegant essay reveal the extent of his insight and the depth of his philosophy, and the character of his own mind is best exhibited in the sympathies and antipathies which he there expresses. Having discussed at length the question of Hamlet's supposed madness, in an article in the 'Westminster Review,' of January, 1865, there is no need to enter here into any criticism of the arguments brought forward on one side or the other.

The writers whom he most admired were Pope, Bolingbroke, Addison, and Cicero; he delighted in Milton's poetical works, especially 'Lycidas,' but his prose works were scarcely known to him; Bacon's essays he admired greatly and perused frequently, but his philosophical writings he was not familiar with. French authors and French style he esteemed highly, but German he did not read, and to German philosophy he had an antipathy, arising out of an entire unacquaintance with it. Goethe was by no means welcome to him, because this great poet's calm theory of life was repugnant to his sensibilities, and his deliberate conduct of life seemed to indicate a cold selfishness. These literary sympathies and antipathies prove, what is evident also in the character of his own easy and graceful, but diffuse, style of composition, that he sometimes affected more the art displayed than the matter contained; that he was disposed to overestimate those who set forth ordinary reflections in an elegant and easy manner, and to underestimate those who broached profound thought in language sometimes neither easy nor elegant. In his youthful days he composed various slight poetical effusions; and there can be little doubt that, had he continued to cultivate his literary talents, and to labour in that direction, he might have had considerable success, either in light and easy versification, or in graceful prose.

He had great sensibility of character; but his feelings were quick and volatile rather than deep and abiding. In some respects, I think, his mind seemed to be of a feminine type; capable of a momentary lively sympathy, which might even express itself in tears, such as enemies, forgetful of his character, might be apt to deem hypocritical; and prone to shrink from the disagreeable occasions of life, if it were possible, rather than encounter them with deliberate foresight and settled resolution. Consequently it could not fail sometimes to happen that troubles, shirked at the time, were gathered up in the future, so as to demand at last some convulsive act of energy, in order to disperse them. A character most graceful and beautiful in a woman is no gift of fortune to a man having to meet the adverse circumstances and pressing occasions of a tumultuous life. He used to say, very sincerely, that he did not care for money, but that he very much liked the comforts and elegancies which money brings—an amiable sentiment, which, however, when closely analysed, might be made to resolve itself into a liking for enjoyment without a liking for paying the painful cost of it. But he truly regarded riches lightly. He was of a most liberal disposition, ever heartily rendering help, whether of money or personal service, to those who were in need of it.

Though by nature passionate and impetuous, he had great command over his manner, which was courteous in the extreme. Indeed he never failed to produce, by the suavity of his manner and the

grace and ease of his address, the impression of great amiability, kindness, and unaffected simplicity; while his cheerful and vivacious disposition and his lively conversational powers rendered him an excellent social companion. His ordinary language was well chosen and elegant, and he always spoke in public with great precision and persuasive gentleness. There was a certain humility of manner, a degree of self-depreciation, in his address as in his writings, which failed not to attract men; it was none the less captivating because it might seem the form in which a considerable dash of self-consciousness declared itself. To few men was personal renunciation more uncongenial, and therefore painful; but few have been more ready to sacrifice, in a benevolent cause, those things which men commonly hold most dear.

Such was the impression made on my mind by one whom events conspired to make closely known to me during the last year of his life. Few men who have done so much for the world's good have done so little which the world can regret or censure. Perhaps no one has done so great a work with so little ostentation, so little self-assertion, so much candid appreciation of the merits of others. His public life has been the gain and honour of mankind; and in the noble work which he accomplished he has raised to himself a world-monument, by which men of all lands, through all ages to come, will be taught to remember, not where he died, but where he lived.

A Plea for the Conjoined Study of Mental Science and Practice.

Being the Introductory Lecture to a Course of Medical Psychology. By THOMAS LAYCOCK, M.D., &c., &c., Professor of the Practice of Medicine and of Clinical Medicine, and Lecturer on Medical Psychology and Mental Diseases in the University of Edinburgh. (*Delivered at Edinburgh, 3rd May, 1866.*)

In this university the study of medical psychology and mental diseases is wholly voluntary. None of the faculties require candidates for degrees to attend the course I deliver, or examine them in the subjects discussed. Doubtless the faculties of arts, theology, and law, might reasonably object to so great an encroachment upon vested interests and established traditions; but it is different with the faculty of medicine, because moral philosophy has only been added to the curriculum of medical studies since I commenced to deliver this course. I have therefore thought it would be expedient (and suggested it, indeed) to permit students of medicine going up for their degrees to choose between medical psychology and moral philosophy; nevertheless the course is still without even this modified

recognition. Nor do any of the other medical boards of examiners of the United Kingdom require it. The Senate of the University of London has, however, very lately recommended the practical study of mental diseases to candidates for medical degrees; but valuable and important as this step is, yet, inasmuch as it excludes medical psychology, it falls very far short of what must ultimately be required in the interests of society of all students seeking general culture or to enter any of the learned professions. I entertain a deep-rooted conviction that mental science, in the modern and practical sense of the term, will sooner or later be forced on the attention of political economists and statesmen as one of the needs of the time; and I am equally convinced that no such science is possible except by the observation and study of morbid mental states. I therefore propose on this occasion to plead for the general study of medical psychology or mental science developed according to this method in this classroom, and although I may not hope to be successful in my pleading, I trust I shall at least encourage you who engage in the study voluntarily to pursue it ardently, as offering its own full reward for any labour you may bestow upon it.

The first questions to determine are—in what respects does medical psychology differ from psychology proper?—and why may not mental diseases be best studied apart from either? In answering these questions comparisons are unavoidable and may appear odious; I trust, however, a statement of the facts will not be considered as an unfair or ungenerous disparagement of either the one or the other method of study. And I would add that, as to medical psychology, I speak of it exclusively as taught from this chair.

We may define medical psychology as the science of the relations of the body and mind of man; it may therefore be considered the highest division of that great group of sciences which deal with life and its phenomena. As a science, it can only comprehend that which can be observed "*re vel mente*." Consequently the future state of man is beyond its sphere; so also all researches as to the soul considered apart from the body, and all the speculative systems which deal with phenomena beyond the reach of observation and within the domain of thought exclusively. With none of these can medical psychology have relations further than this—that it offers in its facts and conclusions, as a science, a solid ground for speculation and thought. Herein is a first ground of difference between medical and speculative psychology.

This as to its sphere; but as a distinct science it has its own method and principles. It seeks to know all that can be known as to the relations of the mind and body of man by means appropriate thereto; to arrange its knowledge in the order best fitted for thought, observation, and practice; and to point out its applications. This is a second ground of difference from the current systems. They do

not profess to be founded on observation, but on thought; they have, therefore, no methods of observation and no knowledge of the relations of body and mind to arrange and apply. I fully admit that in the study of mental diseases apart from medical psychology these relations are examined, and I think few, if any, of the current systems of psychology and mental philosophy wholly ignore them. But in no instance within my knowledge are those relations investigated according to a truly scientific method. In the ordinary study of mental diseases we learn generally that they are caused by bodily changes occurring either in the brain itself, or in the nervous system in general, or in the blood, or in various organs which sympathies with the brain, or in several or all of these conjointly; and we understand how necessary it is to remedy these bodily changes if we would effectually relieve or cure the mental disease and defect. The whole of this knowledge is, however, derived from experience, which is often fallacious when not guided by scientific principles even in the simplest business of life, but is peculiarly so in dealing with the highly complex phenomena of mind. Hence the practitioner in mental diseases has too often to grope his way along a dimly lighted road, beset with pitfalls, without the guidance of those principles which medical psychology affords, and with results too well known to need detail.

It may be objected that at least cerebral physiology offers to the physician all that he may require. I very freely admit that mental physiology has advanced greatly of late years; but I am constrained to object that in this department also the methods of inquiry are defective. It is to be remembered that the intelligent observation of mental disease must constitute the chief if not the best foundation of any true system of mental science, yet our most eminent writers and inquirers into mental physiology display little if any practical knowledge of morbid mind and of the scientific deductions therefrom. And, what is more objectionable, they follow the method of the psychologists in separating vital from mental phenomena, as if the two were wholly distinct, and by an easy transition adopt the general principles of psychology thus reached. It would be unjust not to admit that speculative philosophy, through the long lapse of ages and the labours of the highest minds, has attained to valuable truths; but then, since these truths have been attained by reflection on the phenomena of consciousness, wholly apart from those of organization, they are incapable of easy or satisfactory amalgamation with principles deduced from close observation of the infinitely varied phenomena of life. Hence, we find that those of our physiologists who have made the attempt have done little more than darken counsel thereby.

It is still more important to note another point of difference. All true science, to use a theological phrase, is sceptical; it has no be-

liefs. On the contrary, psychology is not only professedly founded on thought, to the exclusion of observation, but it as professedly includes beliefs. It is thus far more closely connected with faith and all that concerns the religious life of man than with science, for science, when restricted to its proper work, never enters upon the domain of faith. In thus dealing with beliefs, speculative psychology is occupied, in fact, with its proper work as the science of belief. Man is just as much a believing as an inquiring animal, and therefore will always need a science of beliefs. In science, theories and hypotheses take the place of beliefs in psychology, and the two are not infrequently commingled in certain natural sciences, as geology; but in truth our theoretical and our religious beliefs differ in this important particular—that the former are diverse, because of differences in the observation and interpretation of phenomena, whereas the latter differ according to our thoughts, and are as diverse as the instincts, habits, and prejudices whence they arise. They have, therefore, no relation to mental science as a science of observation, except as to their own nature and origin. Arising in thought, beliefs involve such problems as the unconditioned, the infinite, and the absolute, regarding which science can make no utterance—at present, at least; when, therefore, the mental physiologist or pathologist seeks for general principles and a sound method in speculative philosophies, he only gets within a circle of vague, conflicting, and uncertain doctrines, which are, upon the whole, as unsolid foundations for mental science and practice as the shifting sands to the builder.

To understand better the difference to the physician and the physiologist between a mental science which, like medical psychology, seeks for principles and general laws according to the method of the other sciences, and strictly confines itself to the finite and possible, and that more widely grasping philosophy which comprehends the infinite and the absolute, let us conceive what would be the fate of any one of the mixed sciences if placed in the same relative position as the proper science of mind. Medical psychology may be considered to be a sort of mental chemistry, in which the multitudinous affinities of vital matter are examined in their relations to the infinite variety of mental states. It has to discover them; to name and classify them when discovered; to invent terms and instruments and methods of research; and, finally, to generalise the law of their relations and sequences. Suppose, then, that the chemist, in his investigations into the chemical affinities of inorganic and organic matter, were to draw upon speculative philosophy for his appropriate names and instruments and methods of research and generalisations, what would happen? At the very outset he would find that it had not incontrovertibly settled for him the most fundamental principle of his science, namely, whether that identical matter which he proposed to examine existed or not. When he looked for

methods he would find none; asking for principles, he would learn that questions wholly foreign to his inquiries seriously occupied the greatest thinkers, and that upon all the chief problems bearing directly upon his own science every successive thinker pronounced the conclusions of his predecessor erroneous, a mere chaos, and involved in incurable discord. The beliefs would be even less available than the opinions for the purposes of research, and would constitute the most formidable obstacles to any research whatever. Let us, by way of illustration, suppose our chemist to adopt one of two courses, namely, either to take for his guidance the opinions and beliefs of some one school of thought or of some great thinker, as a Reid, Hamilton, Hegel, or Mill; or to act independently and inquire for himself as to the truth and capabilities of the discordant opinions and beliefs. In neither case would he be left free to pursue his purely chemical researches. The self-satisfied empiric, who assumes to himself the title of a "practical" man, and who of all men is the most hypothetical and prejudiced, would sneer at his so-called science of chemistry, and denounce all his attempts at a classification of substances and of their relations to each other on the ground that an absolutely correct and scientific classification is impossible from the nature of things, and unnecessary when there was so practical and simple a classification as that of the four elements and the simple qualities of hot, cold, moist, and dry. And having anathematised our venturesome chemist's researches and notions as wholly subversive of the good old systems, would finally dismiss him with the lofty reproof that by his labours he only makes the science a bugbear to the student, a butt for satire and abuse by the lawyer, a subject of suspicion to the public, and that he had better cease them altogether. The suspicions of the public would be further manifested by the "great thinkers," who would be intolerant of any doubts of their time-honoured beliefs in quiddities, essences, forms, ideas, and the like; and our chemist would be promptly charged with idealism or realism or pantheism or materialism or mysticism, or, perhaps, with all, according to the current beliefs and suspicions of the thinkers and the suspicious public. Suppose, for example, that our nascent chemist had noted how the atmosphere ministered to all life, and proposed to analyse it and investigate its relations to vital phenomena. The speculative philosopher would object that to weigh and measure the vital air—the very breath of life—that which, indeed, the soul is and can only be likened to—would be rank materialism. "What! bottle up the illimitable—weigh the imponderable—divide the indivisible?" The atmosphere is everywhere—imponderable, indivisible, invisible: let us examine it nowhere!" Absurd as all this may appear in regard to ordinary chemistry, it is no exaggeration of the objections raised against the study of that mental chemistry which must constitute the foundation of any

mental science. The first class of objections have been actually advanced against the study of medical psychology within the last few months by the experienced superintendent of a public asylum in Scotland, and those of the second class are drawn equally from a late reality.*

* I refer above to the following views of my friend Dr. Lauder Lindsay, of Murray's Asylum, near Perth, and which I quote from this Journal of April last, p. 143:—"In truth, *there can be no classification* [of mental diseases] *absolutely correct and scientific*, inasmuch as the phases of abnormal mentalisation are as infinite, as varied and varying, as contradictory or capricious, as the phases of human nature, of normal mentalisations, of emotional exhibition, of the play or display of the passions. Neither normal or abnormal mind has been or can be accurately defined so as to include all the phenomena of the one and exclude all those of the other. I believe a scientific definition to be impossible. The principles of nomenclature and classification, as applied to such sciences as botany and zoology, are inapplicable, cannot be carried out, at least into the details of species and varieties, without sacrifice of truth; and while this is so all attempts at such classifications are simply mischievous and absurd, leaving the subject more confused than they found it, rendering the science (?) called 'medical psychology' a bugbear to the student, a butt for satire and abuse by the lawyer, a subject of suspicion to the public." I need hardly remark that if such objections had been effectually raised against the cultivation and classifications of botany and zoology when those sciences were still in their infancy, there would have been no such sciences now in existence. A scientific classification is a concise and simple expression of the known facts and generalisations of the science, and is perfect or imperfect just as such knowledge is perfect or imperfect. As knowledge in any science advances, its classifications change, but no classification whatever can be perfect (as Dr. Lindsay demands that of medical psychology shall be before it be allowed at all) until the knowledge be perfect. In the absence of this perfection in the classification of mental diseases, Dr. Lindsay thinks that there is no nosology so practically useful as "the old one of half a century ago," which has only the five simple heads of mania, monomania, melancholia, dementia, and amentia, and which consequently represents at least the extent of that century's knowledge. But what is the nosological position of the case to which Dr. Lindsay has thought it expedient to append his criticisms above quoted, even if we go back half a century? He terms it a case of "temporary insanity" simply because the patient, a female servant, had a temper-delirium for a few hours, in a way with which the police and hospital staffs of our large towns are very familiar. Now, a transitory delirium cannot be classed with any form of insanity under any nosology, without confounding states of mental disorder essentially different as to causes, course, and treatment. It is not surprising, therefore, that Dr. Lindsay proceeded to make arrangements for placing his delirious patient in a hospital for lunatics, and that she happily escaped so serious an infliction by a rapid recovery.

The other class of objections is well illustrated by the opinions expressed in a recent number (October, 1861) of the 'British and Foreign Medico-Chirurgical Review,' in an article on certain medical introductory lectures. The late Mr. Oranger, in his introductory lecture, delivered October, 1860, at St. Thomas's Hospital, expressed his entire assent to an important and fundamental principle of medical psychology, namely, "that even in the subtle operations of the mind no thought arises without exhausting a portion, however minute, of the gray nerve of the brain," and "that there is no pure manifestation of life apart from matter." It is a statement of a fact or two in mental chemistry which the reviewer could fairly question or correct. But he prefers to fling "materialism" at the mental chemist and assert his beliefs. "Materialistic or not," says the critic, "this localising of thought in the cineritious structure of the double brain, this amalgamation of logic and pure mathematics 'by equivalents,' with corresponding infinitesimal atoms of gray matter, always appeared to our limited apprehension as materialism burlesqued or materialism under mystification.

We cannot wonder at the unscientific character of mental physiology and pathology when such objectors succeed in forcing upon mental science their own methods, and insist that narrow prejudices and time-honoured beliefs shall take the place of the simplest facts of experience and the most obvious deductions from research. Like methods and principles would introduce a veritable dry-rot into any body of scientific truths whatever. I do not know a more interesting theme than a history of mental science from this point of view. It would establish conclusively how greatly the science of human nature has been retarded and injured by the blinking owls of prejudice and pride. I do not think, however, that the objectors to progress in mental science are wholly without their uses. If they never contribute anything to the advancement of truth, they at least supply the *vis inertiae* of scientific movement. When Dr. Henry Stubbe, a contemporary and opponent of Bacon, denounced the whole tribe of experimentalists in science as a "Bacon-faced generation," and prided himself on his own superior practical merits in having "small regard for deep and subtle inquiries into natural philosophy," he probably did more service to the cause of truth by exciting inquiry than if he had become a "Bacon-faced" experimentalist himself. Objectors like him are usually incapable of scientific observation, and only discredit it if they attempt it.

These are some of the considerations, then, which commend a *NOVUM ORGANON* in mental philosophy to the student of mind—an *organon* which shall deal with all morbid mental states whatever as the experiments of the science, and which shall include within its sphere all the relations of vital phenomena, however arising and however manifested to the feelings, reason, and will of man. What special reasons, then, should induce students in the several faculties to study mental science after this method in such a course as I propose to deliver? Chiefly and primarily, they are most numerous and weighty with the student of medicine, for while it offers to him the same advantages as to general culture attainable by others, it is more directly available to his professional success; nor is it a trifling advantage he possesses over the students of the other faculties that he already has acquired so much knowledge of anatomy, physiology, zoology, and animal chemistry, as is necessary to entering upon it in the course of his curriculum, while they must obtain it out of the ordinary course of their studies. But even with these added difficulties the student in Arts who desires to fit himself either

Thought in the double mind of the double brain! Thought in the pineal gland! Thought in this, that, or other pulpy morsel! Everywhere revealed, let us seek it nowhere. Thought is not a thing of bits and pieces. Thought is a presence, without a place." The writer of this absurd denial of one of the most important groups of facts in mental science is probably materialistic enough himself to believe in ghosts that tweak your nose (safely in the dark) or break your head with a tambourine.—T. L.

as a scholar and a gentleman for the performance of the duties which may devolve upon him on the bench or in the senate, or for the successful pursuit of any of the learned professions, has abundant inducements to labour in the study of mental science. For he will find in it all the solid groundwork of a knowledge of human nature, and all the principles necessary to settle doubts in religion and philosophy in so far as the limited human intellect can settle them at all. And it is certain that when the rudimentary knowledge is solidly acquired and the fundamental truths established in his mind, the further study of the science will prove an inexhaustible source of the purest and healthiest pleasure. Nothing, in fact, in any or all the sciences to which he may specially devote himself will be foreign to mental science thus cultivated, for it is thus found to include all and to be the end of all. And in these fields and pastures of new research he will discover that the truths and realities of the world of mind are infinitely more strange than those figments of the imagination in which speculative philosophy too largely indulges.

I do not know how far the student of theology may be, or think himself to be, free to study a science which, like all natural science whatever, must certainly lead to a remodelling of all creeds; and I shall not venture to express an opinion on that point. But I feel myself quite free to say that mental science will assuredly afford a solid support to all the great doctrines of Christianity, whether they be of faith or morals, whenever the intelligent theologian seeks its aid. I can speak with less scruple as to the student of law. To him mental science will offer the means of determining the true nature of evidence; the origin of beliefs and convictions; the just extent of responsibility—personal, parental, social; the uses and abuses of punishment; and the best means of reformation of individual criminals or classes of criminals. I can conceive no nobler object of ambition for a member of the bar than the sifting of the legal experiences of ages by the light of mental science, and no labour more conducive to the good of society. And even for performing the more purely professional duty of an advocate, nothing would be so advantageous as a practical knowledge of insanity, gained by study of cases of mental disease with the light of medical psychology.

I shall now proceed to state a few of the fundamental principles in our mental science, which every student should master and hold fast as great truths. In every science such anchor-truths are needed; in mental science no advance would be possible without them—nothing but the chaos and incurable discord of speculation. The first is a simple truth of experience; it is, that the soul of a man, whatever meaning may be attached to the term, cannot act apart from and independently of the body. The contrary proposition is very widely held and very deeply rooted; it has filled the mind with

superstitious fears, and peopled night and darkness with phantoms. It is not true, however ; no living man has ever given that proof of even one solitary instance of his soul acting apart from his body which a true scientific method requires. It is not necessary to refer to the statements as to the activities of disembodied souls made of late years by "spiritualists," because our science has no concern whatever with those ; its business is with the living, and not the dead. The erroneous proposition is founded, in truth, upon what takes place within the organism, and not without ; all the evidence consists in phantoms of the imagination, such as dreams, illusions, and hallucinations ; these are purely encephalic phenomena which our science undertakes to explain.

A second principle is, that no feeling of pleasure or of pain, no emotion, sentiment, thought, or volition, no state of mind whatever, is experienced by a man without a corresponding change of some kind and somewhere in that portion of the body contained within the skull, and termed the brains or encephalon. This does not imply, however, that with every change in the encephalon there is necessarily a change in the mental state ; it simply means that every mental change coincides with an encephalic change. Now, this is not a truth of experience like the preceding, but an induction from long-continued and most painstaking observation, anatomical, physiological, pathological, and zoological. It has been affirmed that it is a fact of experience too ; that all men are conscious they think with their brains. This is, I think, an error ; for it is clear that a man must first know he has brains, which fact anatomy teaches him ; besides, if it were a simple fact of experience, Plato and the ancient philosophical schools would never have erred so widely in their mental physiology as to place the seat of the emotions and feelings in the heart. The fact of experience seems to me, in truth, to be wholly the other way ; the mind, in its ultimate relations to matter, takes no note at all of that which we observe externally to us and term matter. Our knowledge of that arises from without, and enters through the senses.

A third principle is, that every change in the encephalon, whether it be cerebro-mental or not, is vital. This is so obvious a deduction from the preceding that it is only necessary to mention it. It is, however, of primary importance to our method, for since we cannot observe these cerebro-mental changes, and only know their results as states of mind, we can only gain a knowledge of them and their relations, by comparing them with changes of a like kind, viz., vital changes in general.

And this bears upon a fourth principle, which renders scientific research into these changes possible, viz., that every vital change includes the evolution, conversion, and transference of force ; and, consequently, that every mental state necessarily coincides with and

cannot take place independently of a disturbance of an equilibrium of force or forces somewhere in the brain. The word force is here used in the sense now current amongst physicists who resolve all the forces of nature into motion. This principle, therefore, is a purely scientific induction. It includes all those facts as to the convertibility and conservation of the molecular or atomic forces of matter with which we have been made familiar of late years by the labours of Joule, Mayer, Groves, Helmholtz, Tyndall, and others. You will find the whole subject examined in relation to mental states in my 'Text-book,' under the head "Mental Dynamics," in which I extend the doctrine to the teleological laws of created things.*

An obvious corollary of this principle bears upon a question lately raised, namely, whether matter exists; for since the changes in the brain associated with all our mental states are exclusively due to the operations of that kind of force we term *vis nervosa*, or nerve-force, we must comprehend its origin and working before we can determine that and other subtle metaphysical questions. That the *vis nervosa* is correlative with the other forces manifested in nature and in the organism is at least highly probable, but it must certainly be differentiated from electricity, heat, light, magnetism, and chemical affinity, because it is in immediate relation with consciousness. Under any view, however, it is a manifestation of vital forces, and consequently this fourth principle links mental science to physics through biology and the laws of life. For in the brains we have nothing more than living tissue undergoing changes according to the laws of metamorphosis of living tissues; this, and neither more nor less.

The fifth principle is anatomical, viz., that the changes in the brains correlative with each mental state do not occur in the whole of the brain-tissue, but in a special and appropriate portion of it. This is an induction from observation, like principle the second. Although not so generally admitted, it is certainly as true, although to what extent true has not yet been shown. Each special sense for example has its own nerves and nerve-centres, and there are more special senses than five. The nerves of touch are differentiated and supplied with a mechanism suitable to take cognizance of modes of motion, as light, heat, vibration, weight; we may therefore conclude that there is a corresponding differentiation in the encephalon, not only of directly recipient tissues, but also for correlative notions regarding colour, form, space, sound, weight, temperature, and the like. This principle, it must be observed, does not exclude the law of unity of function of the diverse parts, common to all organisms, but includes it.

These five principles or fundamental truths, with their corollaries, constitute the basis of the somatic or corporeal side of our medical

* 'Mind and Brain or the Correlations of Consciousness and Organization,' vol. i, part iii, p. 217.

psychology; and if we wished to stop there we could apply them usefully to observation and practice. It would, however, be adopting a medical psychology with the psychology left out, and would be an error in every way. The incompleteness of the science would render it more difficult to study, more inefficient in practice, and more repulsive to the philosophic mind, which aims at simplicity and completeness. The student who desires to go no further may find all the facts on the somatic or medical side in books on anatomy and physiology, and many valuable hints as to their practical applications. Yet since the science proper deals with all forms of consciousness in man, its business is *quicquid agunt homines*, and it must therefore teach the scientific relations of all kinds of feeling, thought, and will to the encephalon. But this is not possible without another set of principles which shall connect vital with mental sequences. In regard to these I must refer you more especially to my 'Text-book.' They cannot be stated in few words, and they must be reflected upon and turned about on all sides and tested in every way before the student can make them part of his knowledge.

The sixth principle, then, of the science, and the most fundamental on the psychological side, may be thus stated. The changes in the brains or encephalon are, as we have seen, all vital. Now, what general law of vital change correlates the highest law of the human mind? All vital changes, whatever they may be (in common, indeed, with all physical and cosmical changes), are manifested in an orderly sequence, so that certain ends result or are attained. This is seen most strikingly and most generally in the succession of changes as to form and structure which the primordial cells of animals and plants undergo, from their first formation by the integration of two cells having different properties (the sperm-cell and the gerin-cell), to the highest development of the organism as a complete animal or plant. It is shown, however, as certainly in the successive changes of the simplest molecule or most lowly cell. These changes are due to the molecular forces of matter, and the law of their sequences and relations is the law of adaptation to ends. Now, reason, which is the highest development of the human mind, consists in a knowledge of the order of events and of the means necessary to attain ends, and the rational will is an energizing to their attainment. In nature adaptation to ends is an ultimate fact; so also in ourselves is the consciousness of that adaptation. These two being correlative, I conclude that the same law of mental change is manifested in our brains as in all other living matter, and, consequently, the sixth principle is, that all our mental states are the reflection in our consciousness, according to appropriate conditions, of the vital laws and forces. Whether all living matter be conscious or not does not concern us to decide, nor can we. If, therefore, we desire to know accurately touching the order of our mental states

in relation to encephalic changes, we must seek for that knowledge in a comparison of the order of the correlative vital states, or the laws of life and activity of all living things, as indicating design.

As this comparison can only be established after an observation of the phenomena to be compared, this principle requires for its application to mental science appropriate methods of observation and comparison, without which it must remain barren. And plainly the first step in the method is a classification of the two sets of phenomena, such that a proper comparison of those which are comparable can be instituted. On the one side there must be psychological arrangement of our mental states, on the other a corresponding biological arrangement of vital activities and actions—not in animals only, but also in plants and those lowly organisms which belong to neither or to both. Zoology and natural history already afford ample means for the latter, and both will be still more fertile so soon as men perceive their uses in building up a true science of mind. The psychological arrangement is a more difficult task, for little aid can be got from psychology proper, because psychologists in general have restricted their inquiries to the higher faculties, and expressly excluded the mere appetites and instincts from consideration. Even phrenology, which has approached the nearest of all psychological systems to a natural arrangement, falls far short of what is required.

I have attempted a classification of the morbid mental states of man in accordance with these views, which you will find in my 'Principles and Methods of Medical Observation and Research.' It is a threefold arrangement. First, there is a psychological nosology of the *vesaniæ*; secondly, an etiological nosology of insanity from the psychological side; and, thirdly, a biological arrangement of all morbid mental states. The latter is new, and necessarily so comprehensive that it seems much too elaborate to those who do not apprehend the object of constructing it. I commend it, however, to your consideration, the more particularly as it indicates the order and method in and by which I illustrate abnormal states of the appetites, instincts, passions, and intellect, not merely as insanities, but also as eccentricities, imperfections, and defects. No sharp line of demarcation divides health from disease and disorder in ordinary medicine, and so it is in the practice of medicine for the mind.

To show more clearly the kind of method to be followed according to this sixth principle, I will examine the psychology and pathology of one of the most fundamental instincts. Man, in common with all sentient animals, desires to live or continue in existence. It is a fundamental law of his nature, so generally recognised as to require no comment. If we inquire into the laws of life of other organisms we find that means are universally adapted to this end of continued existence. The so-called struggle

for existence, of which we have heard so much of late, is nothing more than the adapted energizing of organisms to obtain the means available to this end, which are heat and light and the things in or by which force is conserved and produced, as air, food, water, clothing. Consequently this fundamental instinct comprises a variety of subordinate instincts and instinctive acts, manifested alike by animals and plants, in and by which light, heat, air, and suitable foods, are obtained, and shelter and clothing provided, either by growth or act. But the organism is liable to destruction by the means of forces not adapted to continued existence, and there is, consequently, an adaptation of means of defence against such injurious agencies. This end is attained as to internal processes by means that have been attributed to a *vis medicatrix* and *vis conservatrix naturæ*; but in cases in which the entire organism is involved and the forces arise externally, then the end is attained by what are termed defensive instincts. If they are directed against the physical forces of nature they are protecting, building, fortifying, clinging (in plants) instincts; if against the forces of other living organisms, then they are war-instincts, and include the growth, formation, and use of weapons, cunning, flight, attack. Varied as all these instincts are, they can all be generalised under the fundamental law of continued existence, and they are all manifestations of the fundamental psychological law of adaptation to ends.

But let us now turn to a pathological illustration. This instinct for continuance in existence, so universal and so wondrously manifested, is sometimes abolished, and both men and lower animals commit suicide. Thousands of civilised men and women destroy themselves annually. Suicide is usually believed to be always and of necessity an insane act, because the law of life is as usually considered to be the natural or sane condition. Yet there are reasons for the conclusion that the desire to die arises as naturally as the desire to live. The continued existence aimed at is not for an indefinite period; there is a law of termination of life, therefore, as well as a law of continuance. Now, according to our principle, this law has its correlative mental state, namely, the desire to die; consequently, under those conditions of the organism which coincide with the termination of existence the desire to die is as natural as the desire to live under other conditions. The difference between the two is moral. A man must not terminate his life when he thinks it desirable, because he is a social animal and owes duties to society. Christian morals are the most complete expression of these social duties, and therefore the Christian religion forbids the gratification of this selfish desire, and only permits a man to sacrifice his life when death is to be preferred to a failure in duty. Natural religion also affirms that *dulce et decorum est pro patria mori*, so that the "happy despatch" is not without a touch of virtue. When,

then, is the desire to die morbid? Clearly, when that state of feeling arises from disease in the sensorium, which, under the natural law, arises from natural causes. In many instances of this kind there is no insanity, in the stricter sense of the term, any more than in a nervous thirst or a desire for air, unless there be hallucinations and delusions. It often arises, like other desires of its class, as an impulse, sudden, transitory, and more or less resistible in proportion to its urgency, or as there is more or less infirmity of the moral will; for it is this which restrains the personal or selfish instincts in a well-developed man. The desire to die, then, correlates the natural law of termination of existence, and thus death is both shorn of its terrors and made very welcome. My lamented friend the late Dr. Conolly experienced this natural and happy termination to his long and useful life. At the moment when his last illness came on he said, "I have only one wish—to die; but God's will be done." And while he spoke cheerfully to those about him he prayed that he might not recover.

This explanation of the instincts and sentiments to be classed under the law of the continuance of life and its termination applies rigorously to the results of all other vital processes and their correlative mental states and acts. In the region of the intellect the intuition of the Ego, the I, the one, is a reflex in our mental nature of that law of unity or unification according to which the molecules of a single microscopic cell are held together and constitute one thing, and a multitude of cells one organism. And so with all the subordinate intuitions; each has a correlative manifestation in the universe outside us. Life itself is spiritual, therefore, and the spiritual element of our nature is but the finite reflex of that universal Mind which "sweetly orders all that is." With theology we have nothing to do; but this fundamental fact, as to the constitution of human nature, belongs to our science.

Here, then, is a field for scientific observation opened out to those who are willing and able to cultivate mental science according to a scientific method; large enough to gratify the most ambitious, real enough for the most practical, and amply capable of fulfilling the end of all true science, namely, the enriching of human life with useful arts and inventions. I do not think the development and applications of mental science, according to the principles and methods I have sketched out, beyond the powers of the persevering and industrious student of any faculty. This is mainly required—that a solid foundation be laid in a knowledge of facts and their relations, and in right habits of study. I shall endeavour so to teach that these shall be acquired; but the student must do his part, and in particular most sedulously avoid at least two errors. On the one hand, he must not allow himself to be diverted from observation into speculation. He will obtain, as he advances, new views of human nature

and of deeply interesting questions of philosophy, and the temptation will be great to speculate on questions beyond the science. I do not say that such speculation is of itself bad, but it should be deferred by the student until he has laid a solid foundation in knowledge of phenomena and right habits of inquiry. On the other hand, he will be tempted to look upon many of the facts and illustrations of mental science as commonplace, absurd, and needlessly minute; and this the more particularly if he be already indoctrinated with the speculations of current philosophies, which do not condescend to common things. But man must condescend to the commonest things if he would acquire a knowledge of the order of nature, and consequently to science nothing is trivial, minute, or common. The fall of an apple illustrates a great truth as surely as the rising of the sun or the appearance of a comet; but it also illustrates many applications of the truth to common life which the other phenomena do not. And so in mental science; the illustrations I shall give you from the common conduct of men and women, from the practice of medicine in general, and from examples of eccentricity and insanity in particular, may appear to you trivial and common, but they will illustrate great principles and indicate practical applications. And in after-life, whether it be your fortune as physicians to have special opportunities of observing and treating morbid mental states, or as members of some other learned profession to be brought in contact with special forms of eccentricity, folly, and crime, you will be able both to apply and advance the science in having already learnt how to observe by the light of fundamental truths all the common things with which you will have to deal.

This, then, is my plea for the conjoined study of mental science and practice according to a scientific method.

On the Chemical Pathology of the Brain. By ADAM ADDISON, L.R.C.P. & S. Edin.; Resident Medical Officer, Montrose Royal Asylum.

THE chemistry of the nervous system is a subject to which little attention has been given by British authors, but their place has been creditably supplied by several foreign chemists, conspicuous among whom are Couërbe, Fremy, Von Bibra, Hauff, Walther, and Schlossberger. These writers have effected something as regards the chemical pathology of the brain in persons dying sane, but with the exception of a few isolated analyses whose results are sadly in want of confirmation, by Lassaigne, Couërbe, and L'Héritier, it may be said that absolutely nothing has been done in the case of the insane. In fact, the field is a *terra incognita* of unknown extent. I purpose,

therefore, to devote some attention to this subject, and to communicate to the profession from time to time the results of such chemical analyses of insane brains as it may be in my power to make. With this view I shall take my starting-point from the results obtained by Bibra and others; and in order to present a standard for comparison, I shall give an abstract of what has been effected by these chemists. I find that this has been so thoroughly done by Von Gorup-Besanez ('Lehrbuch der Pathologischen Chemie') that I shall not hesitate to make a free translation of his chapter on this subject, criticising and adding where I think it necessary.

Quantitative analyses of the brain, having for their object the determination of the water, of the matters extractable by alcohol and ether, the albumen and salts, have been made at different times and by different chemists. We shall give some of these tabularly arranged.

In 100 parts.	LASSAIGNE.		V. BIBRA.		
	Whole brain.	Gray substance.	White substance.	I. Cerebrum.	II—Medullary substance.
Water	77.0	85.0	73.0	77.26	84.39
Solid matters	23.0	15.0	27.0	22.74	15.61
Albuminates	9.6	7.5	9.9	9.62	8.01
Fat and fatty phosphatic matters...	10.3	4.7	14.8	12.00	6.10
Extractive matters	2.0	1.4	1.0	1.12	1.50
Inorganic salts ...	1.1	1.2	1.3	—	—

The analyses of Lassaigne were made upon the brain of a lunatic; Analysis I by Bibra upon a sane brain (the convolutions of the cerebrum), II upon that of a cretin. The following by L'Héritier are those of the brain and spinal marrow of men of different ages, but without reference to any definite anatomical parts.

In 100 parts.	Brain.					Spinal cord.
	Child.	Youth.	Adult.	Old man.	Cretin.	Adult
Water	82.79	74.26	72.15	73.85	70.93	71.05
Solid matters	17.21	25.74	27.85	26.15	29.07	28.95
Albuminates	7.00	10.24	9.40	8.65	8.40	7.30
Fats, &c.	4.25	6.95	7.90	5.32	5.85	10.15
Extractive matters and salts	5.96	8.59	10.19	12.18	14.82	11.50

These analyses were made after a very imperfect method, and it is certain that in consequence of this a considerable part of the phosphatic fatty matter has been collectively reckoned with the extractives. In recent years the comprehensive investigations of Bibra

and Schlossberger as to the quantities of water, fat, and other solid matters in the different anatomical regions of the brain, have led to some important results. Von Bibra did not confine his observations to the brain of man at different periods of life, but also extended them to many of the lower animals. We shall give here some of those analyses which have reference to the human brain, and shall state the results of the analyses of the nervous system of the other classes only in so far as is required to explain the deductions to be drawn from them.

A Woman, æt. 19 (Typhus).

In 100 parts.	Medulla oblongata.	Cerebellum and pons Varolii.	Crura cerebri.	Hemi-spheres.	Corpora striata.	Thalami optici.	Average of whole.
Water	72·90	76·82	76·02	76·40	77·69	80·26	76·68
Solid matter	27·10	23·18	23·98	23·60	22·31	19·74	23·32
Fats	18·39	12·00	12·42	9·31	9·36	6·80	11·38
Albuminates, extractive matters, and salts.....	8·71	11·18	11·56	14·29	12·95	12·94	11·94

A Man, æt. 21 (Tuberculosis).

In 100 parts.	Medulla oblongata.	Cerebellum and pons Varolii.	Crura cerebri.	Hemi-spheres.	Corpora striata.	Thalami optici.	Average of whole.
Water	74·73	76·17	76·97	79·01	78·16	82·91	77·99
Solid matter	25·27	23·83	23·03	20·99	21·84	17·09	22·01
Fats	15·09	14·28	14·18	12·38	11·80	8·76	12·75
Albumen, &c.....	10·18	9·95	8·85	8·61	10·04	8·33	9·26

A Woman, æt. 35 (Tuberculosis).

In 100 parts.	Medulla oblongata.	Cerebellum and pons Varolii.	Crura cerebri.	Hemi-spheres.	Corpora striata.	Thalami optici.	Average of whole.
Water	75·13	76·98	...	75·69	70·11	79·82	75·55
Solid matter	24·87	23·02	...	24·31	29·89	20·18	24·45
Fats	17·99	14·53	...	17·69	12·55	11·09	14·77
Albumen, &c.....	6·88	8·49	..	6·62	17·34	9·09	9·68

A Man, æt. 65 (Marasmus).

In 100 parts.	Medulla oblongata.	Cerebellum and pons Varolii.	Crura cerebri.	Hemi-spheres.	Corpora striata.	Thalami optici.	Average of whole.
Water	74·46	75·82	76·30	74·43	77·38	80·00	76·39
Solid matter	25·54	24·18	23·70	25·57	22·62	20·00	23·61
Fats	15·43	13·29	13·60	14·46	9·91	80·20	12·44
Albumen, &c.....	10·11	10·89	10·10	11·11	12·71	11·80	11·17

A Man, æt. 41 (Typhus).

In 100 parts.	Medulla oblongata.	Cerebellum and pons Varolii.	Crura cerebri.	Hemi-spheres.	Corpora striata.	Thalami optici.	Average of whole.
Water	73.08	76.52	76.49	74.24	78.56	79.82	76.44
Solid matter	27.00	23.48	23.51	25.77	21.44	20.18	23.56
Fats	18.33	14.27	14.89	15.25	12.22	10.78	14.29
Albumen, &c.....	8.67	9.21	86.20	10.52	9.22	9.40	9.27

A Man, æt. 80 (Marasmus).

In 100 parts.	Medulla oblongata.	Cerebellum and pons Varolii.	Crura cerebri.	Hemi-spheres.	Corpora striata.	Thalami optici.	Average of whole.
Water	72.03	72.30	72.38	80.00	75.64	73.44	74.58
Solid matter	27.97	27.70	27.62	20.00	24.36	26.56	25.42
Fats	16.77	13.33	15.72	8.45	11.70	14.53	13.41
Albumen, &c.....	11.20	14.37	11.90	11.55	12.66	12.03	12.01

From these analyses by Bibra of the brains of those who have died of the most dissimilar diseases it appears, first of all, *that the quantity of fat in the brain is always to a certain extent individual*, and that diseases which are attended by general emaciation do not alter the amount of cerebral fat. It must not, however, be forgotten that what we designate as cerebral fats are proper fats only to a very small extent; in short, that they are peculiar matters of a fatty nature containing a large quantity of phosphorus, whose chemical constitution is not sufficiently known, though it is certain that they differ essentially from the proper fats. So, when we find that in diseases which produce a great emaciation of the body the cerebral matters soluble in ether are not lessened in quantity, it is not so very wonderful, because it is only the fat proper which suffers loss.

Among the different anatomical regions of the brain the medulla oblongata contains the largest quantity of cerebral matter soluble in ether. This is also the result of the analyses of Hauff and Walther. On the other hand, the thalami optici and the corpora striata appear to contain least fat, but this rule appears to have more or less numerous exceptions, according to individual conditions.

Age appears to be not without influence upon the quantity of fat in the brain, which seems to decrease in advanced life. As regards the quantity of water, no general laws can be deduced from Bibra's analyses; it appears to vary much within certain limits. In general, it may be assumed that those parts of the brain which have most fat give the smallest quantity of water, and *vice versâ*. Age appears to exercise no considerable influence upon the quantity of water, but,

on the other hand, the albuminates, &c., appear to increase somewhat in old age. Von Bibra, Walther, and Hauff have also made observations upon the relation of the water, the fats, and other solid matters in the gray and white substance. They agree in stating *that the fatty contents of the gray substance are much smaller in quantity than those of the white, and that the former contains more water than the latter*, and, what is very remarkable, in almost the same proportion as it is poorer in fat. These conditions supply a general confirmation of the results of Lassaigne's analyses previously given.

BIBRA.

In 100 parts.	Male, æt. 21. Typhus.			Male, æt. 59. Bright's Disease.			Male, æt. 30. Tuberculosis.		
	Gray substance of hemispheres.	White substance of hemispheres.	White substance of corpus callosum.	Gray substance of hemispheres.	White substance of hemispheres.	White substance of corpus callosum.	Gray substance of hemispheres.	White substance of hemispheres.	White substance of corpus callosum.
Water	87.00	71.82	65.37	88.22	72.15	63.54	83.57	69.19	71.55
Fat	5.97	19.73	20.33	5.46	20.39	21.18	6.43	20.43	14.67
Albumen, &c.	7.03	8.45	14.30	6.32	7.46	15.28	10.00	10.38	13.78

WALTHER AND HAUFF.

In 100 parts.	Corpus callosum.		Cortical substance.		Medulla oblongata.		Arbor vitæ.	
	Male, æt. 60.	?	Male, æt. 60.	?	Male, æt. 60.	?	Male, æt. 60.	?
Water	70.61	70.81	86.38	85.00	69.74	72.48	81.36	79.94
Fat	15.41	14.90	4.84	4.86	15.21	15.12	6.06	5.96

The investigations of Bibra and Schlossberger have shown some remarkable deviations from the adult normal in the constitution of the brain of embryos and new-born children.

The cerebral fat, in the case of embryos and new-born children, is much smaller in quantity than in the adult; on the other hand, the quantity of water is greater; but in the new-born child the fatty matters are remarkably greater than in the embryo, and increase with considerable rapidity as age advances to maturity.

Then Schlossberger's experiments bring out the remarkable result that the difference in the quantitative distribution of the fat in the gray and white substances does not exist in the embryo. The following tables give a few of these relations.

BIBRA.

In 100 parts.	WHOLE BRAIN OF EMBRYOS.					
	Of 10 weeks.	Of 13 weeks.	Of 14 weeks.	Of 18 weeks.	Of 20 weeks.	Of 22 weeks.
Water.....	85.10	86.71	86.24	86.90	86.33	85.93
Fats	1.26	0.99	1.53	1.16	1.07	1.23
Albumen, &c.	13.64	12.30	12.23	12.04	12.60	12.84

In 100 parts.	Embryo of 37 weeks.				Female child, 6 months. Pneumonia.			
	Medulla oblongata.	Cerebellum and pons Varoli.	Crura cerebri.	Hemi-spheres.	Medulla oblongata.	Cerebellum and pons Varoli.	Crura cerebri.	Hemi-spheres.
Water.....	87.72	88.62	87.65	91.06	82.00	83.18	81.87	81.87
Fats	4.20	2.94	3.95	2.36	8.50	3.92	7.79	7.79
Albumen, &c.	8.18	8.40	8.40	6.58	9.50	12.90	10.34	10.34

From these figures it will be seen that the medulla oblongata is also richest in fat in embryos and new-born children—

SCHLOSSBERGER.

In 100 parts.	New-born child.			
	Gray substance of hemispheres.	Corpus striatum.	Corpus callosum.	Thalamus opticus.
Water.....	88.56	88.04	89.12	87.73
Salts	3.82	4.57	3.85	4.74

In embryos the quantity of water in the gray and white substances is equally high, and there is no remarkable difference in the amounts of fat in these parts. Accurate methods of separation available for the quantitative determination of the cerebrine, cholesterine, of the proper, and of the phosphatic fats, are still wanting, but Bibra believes it may be concluded from his observations that in adult men 100 parts of the fatty matters soluble in ether consist of from about 20 to 21 per cent. of cerebrine, 30 to 33 of cholesterine, and 46 to 50 of the other fats and fatty matters.

The gray substance of the brain contains least cerebrine, a medium quantity of cholesterine, and a greater quantity of the other fats.

The white substance contains more cerebrine and cholesterine than the gray, and therefore less of the other fats.

The general result of the comprehensive inquiries of Von Bibra, Schlossberger, Walther, and Hauff, into the quantities of water and fat in the brains of the lower animals, is that there is an increased

quantity of water the lower we descend in the vertebral kingdom. The brain of the lower mammalia approaches, as to its quantity of water, to the undeveloped foetal brain of the higher mammalia and of man.

Experiments made on animals also confirmed the fact that the different anatomical parts of one and the same brain contain very different proportions of the matters soluble in ether. As in man, so also in animals, the gray substance is far poorer in fatty matter than the white, and these also stand in an inverse relation to the quantity of water, while the medulla oblongata is also in almost every case richest in the so-called fats. The brain of the mammalia contains far more fat than that of the other classes. As to the distribution of the cerebrine, cholesterine, &c., the mammalia differ from the condition found in man in that the brain contains a less quantity of cerebrine; the phosphatic fats in the lower animals, as in the embryo of man, are present in less quantity than in the higher vertebrata and adult men.

The experiments of Bibra also show that starvation produces no essential change in the weight of the brain of an animal, nor in the relation of its chemical constituents, and that in processes which call into sympathy the whole bodily organism, tissue-change in the brain undisturbedly pursues its course.

Quantitative relations of the inorganic constituents of the Brain.—We possess only one complete analysis of the ash of the whole brain, made by Breed. But it may be questioned whether this gives a correct idea of the distribution of the constituents of the ash in the brain, since, on the one hand, it is a very difficult matter to reduce the brain completely to an ash, in consequence of the great quantity of phosphoric acid and phosphatic salts which prevent the incineration of the carbon, by which they may also be to some extent reduced, and because it is not stated whether he made use of one brain only or several. However, it appears from Breed's analysis that the ash of the brain shares with that of the muscular tissue and of the yolk of egg great richness in phosphoric acid and a great superabundance of potassium as compared with sodium, and therefore presents a greater similitude to the ash of milk than to that of the blood. For the sake of comparison we place beside Breed's analysis of the brain that of the ash of blood, flesh, yolk of eggs, and milk.

In 100 parts.	Brain. BREED.	Calves' flesh STAFFEL.	Yolk of egg. POLECK.	Human milk. WILDEN- STEIN.	Human blood. VERDEIL.
Potassium	32.42	34.40	8.93	21.44	11.24
Sodium.....	10.69	2.35	5.12	...	6.27
Magnesia	1.23	1.45	2.07	0.87	1.26
Lime.....	0.72	1.99	12.21	18.78	1.85
Chloride of sodium	4.74	10.59	...	10.73	55.63
Chloride of potassium .....	...	...	...	26.33	...
Phosphate of iron	1.23	...	...	0.21	...
Phosphoric acid (combined) .	39.02	48.13	63.18	19.00	11.10
Free phosphoric acid	9.15	...	5.70	...	...
Sulphuric acid.....	0.75	...	...	2.64	1.64

There are also some other analyses of the ash-constituents of the cerebrum, but the most comprehensive observations made in this direction—those of Von Bibra—were made upon brains which had been deprived of their fat, and therefore do not give the whole weight of the cerebral ash, but only that of those salts which have not passed over in the ether-extract. The latter, however, has also been determined separately by the same observer, and he has added some analyses of the phosphatic constituents of the ether-extract made from different parts of the brain.

Individuals.	Regions of brain.	Ash in 100 parts of fresh brain.	Ash in 100 parts of brain dried at 100° C. and deprived of fat.	Ash in 100 parts.	
				Soluble salts.	Insolu- ble salts.
Male, æt. 21 ...	Hemispheres	0.190	2.20	72.75	27.25
" " ...	Cerebellum and pons Varolii .	0.317	3.47	74.90	25.01
" 33 ...	Medulla oblongata	0.349	3.46	61.10	38.90
" " ...	Cerebellum and pons Varolii .	0.328	3.30	85.70	14.30
" " ...	Crura cerebri.....	0.230	2.30	75.00	25.00
" " ...	Hemispheres	0.361	3.52	86.50	13.50
Female, æt. 33...	Medulla oblongata	0.348	3.76	75.00	25.00
" " ...	Cerebellum and pons Varolii .	0.193	5.72	89.80	10.20
" " ...	Crura cerebri.....	0.488	4.83	84.10	15.90
" " ...	Hemispheres	0.509	4.99	86.60	13.40
Male, æt. 86 ...	Medulla oblongata	1.072	9.43	80.00	20.00
" " ...	Cereb., crura, hemispheres ...	0.449	4.37	72.70	27.30
" 36 ...	Medulla oblongata	0.557	6.27	56.30	43.70
" " ...	Cerebellum and pons Varolii .	0.652	5.73	88.80	11.20
" " ...	Crura cerebri	0.571	5.14	81.50	18.50
" " ...	Hemispheres	0.559	4.64	90.30	9.70
" " ...	Corpora striata	0.304	4.68	86.60	13.40

No general conclusions can be drawn from these results except in the case of the medulla oblongata, which appears to contain more insoluble salts (phosphatic earths) than the other parts of the brain. Similar analyses made upon the brains of different of the lower

animals showed that the cerebral ash of the bird is greater than that of man and the mammalia, generally that of the brain of the amphibia and fishes larger than that of all other classes, and also that in the amphibia and fishes the quantity of the phosphatic earths is more considerable than in the other orders.

Some comparative analyses of the ash of the gray and white substances have been made by Schlossberger. He confirms the statement of Lassaigne, that the ash of the gray substance has an alkaline reaction, but that of the white is decidedly acid, which, without doubt, is explained by the fact that the white substance contains more of the phosphatic fats.

Schlossberger found in 100 parts of fresh brain—

In the gray substance—

1. Of a man æt. 74. . . . 1.00 per cent of ash.
2. Of a calf 1.16 „

In the white substance—

1. Of a man æt. 74. . . . 1.82 „
2. Of a calf 1.72 „

The white substance, therefore, contains more inorganic salts than the gray.

The following are Von Bibra's analyses of the ash of the ether-extract and the constituents of the cerebral fats of man :

Individuals.	In 100 parts of ether-extract : per-centage of ash.	In 100 parts of ash.			In 100 parts of ash : relation of Potassium and Sodium.	
		Potassium.	Sodium.	Phosphoric acid.	Potassium.	Sodium.
Female, æt. 21	4.46	10.0	17.0	73.0	37.0	63.0
Male, „ 30	5.27	12.7	18.1	69.2	41.2	58.8
„ „ 27	5.45	13.1	9.1	77.8	58.8	41.2

From these figures it is apparent that in the ether-extract a distribution of the bases exists which does not correspond to their relation in the whole ash, in which the potassium so considerably overweighs the sodium.

The determination of the quantity of phosphorus in the brain has been an object of considerable interest in consequence of the important rôle it was supposed to play in the activity of the nervous system, and also in consequence of the conflicting results which several analysts have published. Schlossberger points out that the old analyses by Vauquelin, who found one and a half per cent. of phosphorus in fresh brain, evidently rest upon an error (and in this opinion Berzelius concurs); for assuming the brain substance to contain on an average 80 per cent. of water, these results would

give 7 per cent. of phosphorus in dried cerebral matter. And equally incomprehensible are the more recent (1843) analyses of L'Heritier, who would appear to have found analogous numbers, namely, in the brain of the child, 0·80; of the adult, 1·80; youth, 1·65; old man, 1·00; and of an idiot, 0·85!

Schlossberger further remarks that Couërbe's ideas as to the connection of certain mental disturbances with an increase or diminution of the normal quantity of phosphorus must be regarded as chimerical so long as they do not rest upon confirmed facts; L'Heritier also finds a minus quantity of phosphorus in the brains of idiots, but does not agree with Couërbe that the quantity is greater than normal in the case of maniacal patients. Indeed, the only trustworthy analyses are those of Von Bibra, who made use of the ether-extract for the determination of the quantity of phosphorus in the belief that it belongs to one of the cerebral fats, and of course the numbers must be regarded as giving the weight of the phosphates of the fats only. They are as follow :

In 100 parts of Ether-extract.

Male, æt. 59.	Medulla oblongata	1·65	Lunatic, æt. 38.	In whole brain	... 1·93
	Cerebellum and		" " 52.	" "	... 1·75
	pons varolii	... 1·83	Male, " 30.	Gray substance of	
	Crura cerebri	..... 1·76		hemispheres	... 1·88
	Hemispheres	..... 1·83		Corpus callosum	... 1·54
	Corpora striata	... 1·65		White substance	... 1·54
	Thalami optici	... 1·54	" " 59.	Gray substance of	
	Corpus callosum	... 1·54		hemispheres	... 2·33
	Average	..... 1·68		White substance of	
Female, " 19.	In whole brain	... 2·53		hemispheres	... 1·82
Male, " 56.	" "	... 1·72		Corpus callosum	... 1·36
" " 80.	" "	... 1·83	" " 38.	Gray substance of	
" " 25.	" "	... 1·89		hemispheres	... 2·10
Lunatic, " 36.	" "	... 1·75		White substance	... 1·62
Embryo of 87 weeks,			in whole brain		
Seven embryos from 14 to 18 weeks,			" "		
			..... 2·09		
			..... 1·68		

From these figures it appears that the fat of the gray substance contains somewhat more phosphorus than that of the white, but as a general rule the deviations above and below the average are included within very narrow limits, and experiments made on the lower classes show that in animals of a very low grade as to intellectual capacity, in the more intelligent orders, and lastly in man, there are no remarkable differences in the quantity of phosphorus in the brain. The natural conclusion follows, that the quantity of this cerebral constituent does not stand in a parallel connection with the development of the intellectual faculties.

Gorap Besanez, in summing up, observes, that the foregoing quantitative analyses present no deductions of definite value bearing upon pathological conditions or mental diseases. Perhaps not, but

when we find that Bibra's analyses of insane brains were limited to three or four cases at most, it seems to me inexpedient and baneful to the progress of exact knowledge that the inquiry should be closed. It is by no means impossible that deviations from the normal quantitative composition will be found in diseased conditions and functions of the brain, and in many cases of paralysis and other diseases limited to definite parts of the cerebrum it will be interesting to ascertain the difference between the healthy and unhealthy parts. It is with this view that I communicate the results of my own work.

I shall first state the processes by which my results were obtained. As soon as possible after removal from the calvaria the brain was stripped of its membranes, and portions of the different regions weighed on watch glasses, on a balance turning with 100th of a grain. The anatomical parts analysed are the same as in Bibra's cases ; but it appeared to me more correct to examine the gray and white substance of the hemispheres separately, so that I have one column more than this author has. The gray matter was carefully scraped off the white with a scalpel. The weighed portions were then dried at a temperature of 230° Fahrenheit, until after repeated weighings they ceased to lose weight. The loss was deducted as water.

After the calculation of the water the fats were extracted from the dried portions of brain in an apparatus recommended by Bibra. Into a small glass flask of suitable size an air-tight cork is fixed, through which a strong glass tube, about six or seven inches in length and half an inch in diameter, reaches half way down into the flask. This tube, at its lower end, is furnished with a small opening 3—5 lines in size ; into its upper end a perforated cork is fitted, through which another tube, bent twice at a right angle, connects the apparatus with a second flask. The bent tube leads through a perforated cork, not quite air-tight, to the bottom of the second flask, which should be well cooled in water. Into the strong tube, which reaches half-way down into the first flask, the substance to be extracted is placed, and the extracting material (the ether) in the flask below.

When the ether is warmed and brought to boiling by a lamp, the hot vapours ascend through the small opening in the end of the tube, soften the substance there, dissolve as much as they are able to take up, and remain partly concentrated and fully saturated in the tube, while the superfluous ether is distilled through the bent pipe into the second flask. When a certain quantity has collected into this the lamp is removed, and the natural consequence is that the distilled ether returns with some force into the first flask and carries with it the fat which has been concentrated in the tube. Bibra says that when this is done ten or twelve times the extraction is generally complete, but I have had to do it nearer twenty times ; at any rate, it must be done until it is seen by its colour that the ether does not

take up any more fat. As it is impossible to remove the dried brain substance from the watch glasses without loss, the quantity to be used must again be weighed. After the fat is thoroughly extracted, the ether is evaporated to dryness and the solid residue weighed. The brain substance should not be powdered, but placed in the tube in lumps; otherwise light floating particle will be carried down by the returning ether, and give too high a result. The advantage of this method is that a very small quantity of ether suffices to exhaust the brain substance of the fat, and no filtration is required if it is properly done.

The brain fats are all soluble in boiling ether; if alcohol is employed, a not inconsiderable quantity of extractive substances which are soluble in this fluid are obtained with the fats.

Owing to the want of an accurate method of separation, it did not appear to me that I could undertake the analysis of the fat into cerebrine, cholesterine, &c., with any hope of success. The albuminates, extractives, &c., were reckoned by deducting the amount of fat from the total solids. It has already been stated that Bibra made use of the ether-extract for the determination of the phosphorus. This method did not appear suitable for my purpose. In the first place the quantities of fat extracted were generally very small, and then I was by no means sure that it would contain the absolute amount of phosphorus in the regions from which it was taken. Consequently I preferred to operate on the fresh brain, and then, in order to give an unvarying standard of comparison, to calculate the quantity in 100 parts of dried cerebral substance, making use for this purpose of the previous determination of the per-centage of solids.

The following method was recommended to me by Dr. Stevenson Macadam, of Edinburgh. The weighed brain substance was drenched with lime water, evaporated to dryness, and charred in a crucible. The charred mass digested with heat in diluted hydrochloric acid, filtered, and ammonia added, which precipitated alumina, iron, and phosphoric acid. The precipitate dissolved in a little hydrochloric acid; a solution of tartaric acid added; rendered alkaline by ammonia; and a stream of sulphuretted hydrogen passed through. Heated very gently, filtered, and evaporated to small bulk. A solution of sulphate of magnesia and ammonia added, which precipitated the phosphorus as phosphate of magnesia and ammonia. The precipitate was then washed with water containing ammonia, dried, burned, and weighed, the ash of the filter being deducted, and the phosphorus determined in the form of phosphate of magnesia.

In the carrying out of the foregoing processes all the little chemical minutiae were attended to, such as the thorough washing of filters, cooling over sulphuric acid, &c.

The cases now follow. I shall give only those points in the autopsies which have a bearing upon the analysis.

I.—Elizabeth S—, æt. 75. A case of senile insanity, manifested by apparent want of comprehension and incoherent muttering. Died of an attack of diarrhœa, after she had been insane about a month.

Autopsy.—Body emaciated. Membranes of the brain apparently normal, with the exception of some milky opacity of the arachnoid. Three ounces of clear fluid were found in the arachnoid sac, and one ounce in the lateral ventricles. There were no granulations on the living membrane of the ventricles. The brain substance was cedematous; intestines ulcerated.

In 100 parts.	Medulla oblongata.	Cerebellum and Pons varolii.	Crua cerebri.	Corpora striata.	Thalami optici.	Hemispheres.		Average.
						Gray substance.	White substance.	
Water	75·87	75·04	74·19	80·27	79·66	85·10	76·47	78·09
Solids	24·13	24·96	25·81	19·73	20·34	14·90	23·53	21·91
Fats	16·31	13·82	15·00	8·74	15·58	5·68	11·90	12·43
Albumen, &c.	7·82	11·18	10·81	10·99	4·76	9·22	11·63	9·48

In this case the results correspond very nearly with many of Bibra's; nor is this surprising, seeing that she had been only a month insane.

II.—Charles F—, æt. 30. Had been several years demented; died of tubercular pneumonia.

Autopsy.—Scalp thin, and poor in fat. Dura mater normal; arachnoid thin and transparent. A considerable quantity of fluid in arachnoid sac; rather more than normal in the lateral ventricles. On making a section of the hemispheres, a large quantity of fluid exuded from the brain-substance. Puncta vasculosa in white substance large and purple-coloured. The gray substance of the hemispheres was of a dark leaden colour. Under the microscope some of the cells and most of the vessels were seen surrounded by granular deposits. In some of the capillaries large and abnormally numerous nuclei were observed in the coats. In the outer layer of the cortical substance the corpora amylacea were exceedingly numerous.

The lungs were full of tubercle.

There is nothing peculiar in this case.

In 100 parts.	Medulla oblongata.	Cerebellum and Pons varolii.	Crua cerebri.	Corpora striata.	Thalami optici.	Hemispheres.		Average.
						Gray substance.	White substance.	
Water	73·74	74·17	79·93	82·01	71·80	85·19	69·92	76·68
Solids	26·26	25·83	20·07	17·99	28·20	14·81	30·08	23·32
Fats	16·47	17·28	7·19	10·36	11·24	4·64	18·21	12·19
Albumen, &c.	9·79	8·55	12·88	7·63	16·96	10·17	12·87	11·13

III.—John D—, æt. 52. A person of weak mind, with several delusions; many years resident in the asylum; died of tubercular pneumonia.

Autopsy.—The membranes of the brain appeared normal. The cerebral substance itself was pale; otherwise there was nothing abnormal. Under the microscope the cells were observed to be surrounded by granular deposit. The lungs were full of tubercle, and partially hepatized.

In 100 parts.	Medulla oblongata.	Cerebellum and Pons varolii.	Crua cerebri.	Corpora striata.	Thalami optici.	Hemispheres.		Average.
						Gray substance.	White substance.	
Water	76·17	79·00	77·26	81·38	81·77	86·23	71·20	79·01
Solids	23·83	21·00	22·74	18·62	18·23	13·77	28·80	20·99
Fats	12·83	6·56	11·98	5·67	5·98	2·50	17·72	9·03
Albumen, &c.	11·00	14·44	10·76	12·95	12·25	11·27	11·08	20·99
Phosphorus in 100 parts, dried at 230° Fahr.	0·441	0·550	0·282	0·913	0·659	0·653	...	...

The quantity of fat generally is small, and in the gray matter it is less than what Schlossberger found in the new-born child. If we accept Bibra's view, that the phosphorus belongs to the fat, the relation of the average quantity of phosphorus to the average quantity of fat in the whole brain would be 1·52 per cent.

IV.—Magdaline D—, æt. 37. Many years demented, latterly quite unable to comprehend what was said to her. Died of phthisis.

Autopsy.—Body much emaciated. Dura mater normal, vessels of the arachnoid over the posterior lobes filled with firm clots, of a white fibrinous aspect, and the membrane was of a rusty hue, most intense in the immediate vicinity of the vessel. Fluid in ventricles three drachms.

Lungs contained tubercular deposits.

In 100 parts.	Medulla oblongata.	Cerebellum and Pons varolii.	Crura cerebri.	Corpora striata.	Thalami optici.	Hemispheres.		Average.
						Gray substance.	White substance	
Water	73.37	78.04	73.88	81.50	77.27	86.42	69.62	77.22
Solids	26.63	21.96	26.12	18.50	22.24	13.58	30.38	22.78
Fats	9.16	6.04	11.53	6.23	6.46	4.10	12.21	7.96
Albumen, &c.	17.48	15.92	14.59	12.27	15.78	9.48	18.17	14.82
Phosphorus in 100 parts, dried at 230° Fahr.	0.991	0.380	0.751	0.728	0.896	0.620	0.421	0.698

Phosphorus in fat of whole brain, according to Bibra, 1.99.

V.—William McK—, æt. 19. A congenital idiot, without power of speech or manifestation of the slightest intelligence; dirty in his habits; died of phthisis.

Autopsy.—Body emaciated. Membranes of brain apparently normal. A small quantity of fluid escaped on opening the arachnoid sac. Three drachms of fluid were found in the lateral ventricles. The convolutions were numerous, and beautifully developed. The lungs were tubercular.

In 100 parts.	Medulla oblongata.	Cerebellum and Pons varolii.	Crura cerebri.	Corpora striata.	Thalami optici.	Hemispheres.		Average.
						Gray substance.	White substance	
Water	78.90	79.30	75.70	82.83	81.01	85.88	71.45	79.16
Solids	21.10	20.70	24.30	17.17	19.19	14.12	28.55	20.84
Fats	9.81	7.80	13.74	7.13	8.23	3.80	16.97	9.64
Albumen, &c.	11.29	16.90	10.36	10.04	11.76	11.32	11.58	11.20
Phosphorus in 100 parts, dried at 230° Fahr.	1.548	1.301	1.717	1.851	1.173	0.693	0.441	1.246

Relation of phosphorus to fat 2.69 per cent. It will be seen that in this case the quantity of phosphorus is large, not in one region only, but in all, and is probably accounted for by his youth. It may not be unworthy of mention, that the analysis of this lad's urine, published in the 'British and Foreign Medico-Chirurgical Review,' for April, 1865, showed that he was then passing a larger than the average quantity of phosphoric acid, according to body weight. I do not, however, regard the two facts as other than a coincidence. I have again to direct attention to the fact that the fat in the gray matter is very small.

VI.—Alexander D—, æt. 50. A congenital imbecile; had much difficulty in expressing himself. Died of phthisis.

Autopsy.—Body emaciated; membranes of the brain apparently

normal. The brain-substance was pale, but otherwise normal to the unassisted eye.

Under the microscope, the cells and vessels were seen surrounded by large quantities of granular deposit. The lungs contained tubercle.

In 100 parts.	Medulla oblongata.	Cerebellum and Pons varolii.	Crura cerebri.	Corpora striata.	Thalami optici.	Hemispheres.		Average.
						Gray substance.	White substance	
Water	73.85	78.52	74.24	81.07	78.04	86.04	69.21	77.28
Solids	26.15	21.48	25.76	18.93	21.96	13.96	30.79	22.72
Fats .....	...	8.85	11.42	5.30	9.57	1.65	18.77	9.26
Albumen, &c. ....	...	12.63	14.34	13.63	12.39	12.31	12.02	13.46
Phosphorus in 100 parts, dried at 230° Fahr. ....	...	0.552	0.416	0.368	0.388	0.650	0.163	0.423

The quantity of fat in the gray matter is here again excessively small, being only about half the amount found in the new-born child, and corresponding pretty nearly with the quantity obtained from embryos of an early stage. The relation of the phosphorus to the fat is 1.03 per cent.

VII.—Betsy K—, æt. 70. A case of dementia of many years' duration. Could comprehend what was said to her, and answered with coherence occasionally. Died of general decay.

Autopsy.—Body in fair condition. Membranes of brain apparently normal. On removing the dura mater a considerable quantity of straw-coloured fluid escaped. The brain-substance was very pale, and anæmic. The lateral ventricles contained four drachms of fluid, and a few crystalline granulations were seen on their lining membrane. Microscopic examination showed that the cells and vessels were surrounded by large quantities of granular deposit. The heart, liver, and kidneys were found to be intensely fatty under the microscope.

In 100 parts.	Medulla oblongata.	Cerebellum and Pons varolii.	Crura cerebri.	Corpora striata.	Thalami optici.	Hemispheres.		Average.
						Gray substance.	White substance	
Water	82.78	78.99	77.10	82.19	81.32	86.08	74.20	80.38
Solids	17.22	21.01	22.90	17.81	18.68	13.92	25.80	19.62
Fats	5.07	6.74	8.45	5.44	5.59	4.10	12.12	7.07
Albumen, &c.	12.15	14.27	14.45	12.37	13.09	9.82	13.68	12.55
Phosphorus in 100 parts, dried at 230° Fahr.	1.845	0.494	0.787	0.935	0.934	0.740	0.399	0.833

The most striking peculiarity of this case is the small quantity of fat in the medulla, which is so unusual that it may be regarded as pathological. The relation of the phosphorus to the fat is 2.31 per cent.

VIII.—Robert McD—, æt. 29. Three months resident in the asylum. During that time it was observed that he was very irritable in his temper, and continually made mistakes as to the identity of persons; occasionally he was excited, and talked incoherently. Habits dirty; paralysed on the left side, and on several occasions he had epileptiform attacks, during which the convulsions were confined to the paralysed side. The paroxysm did not last more than five minutes, and was not followed by coma. It was stated that, before admission, he had been very violent and unmanageable for six weeks, and that for three years previously he had suffered from diabetes insipidus (which, however, did not exist during his residence in the asylum); that he was greatly troubled with frontal headache, and that these paroxysms of pain alternated with the diabetes; that is to say, that when he suffered from his head the quantity of urine was not abnormally great, and *vice versa*. He died suddenly while sitting in his seat.

Autopsy.—On cutting through the scalp the temporal muscles of the right side were found to be cedematous. The dura mater was adherent to the calvaria, on the right side, but not on the left. It was also redder on the right than on the left side. On attempting to remove the dura mater, it was found adherent over the anterior lobe of the right side, and on breaking up this adhesion a small quantity of fluid, of the colour and consistence of pus, escaped. The arachnoidal surface of the dura mater was much thickened, congested over the middle and posterior lobes, and over the anterior lobe there adhered to it a portion of the superior surface of the hemisphere, of a rich yellow pus colour. The superior surfaces of both hemispheres were flattened. The left ventricle was opened, and two ounces of clear fluid removed, the whole superior surface of the right anterior lobe was of a yellow pus colour, and in cutting into it, it was found to be quite hard and solid, the hardness extending into the white matter. The extreme anterior point of the lobe was softened, and was removed piece by piece. The base of the brain, the corpus striatum, and optic thalamus, were much softer on the right than on the left side. The right hemisphere weighed 22 oz.; the left, 18½. A portion of the altered structure placed under the microscope presented cells of various sizes, some round, some oblong, and some angular, filled with granular matter, some being very similar to compound granular corpuscles, but surrounded by a cell-wall. While parts of the altered brain-substance were abnormally hard, others were undergoing softening. It was regarded as a case of cancer cerebri.

In 100 parts.	Left corpus striatum.	Left thalamus opticus.	Left hemisphere. Gray substance.	Right hemisphere. Cancerous mass.
Water.....	81.82	77.13	83.51	84.01
Solids	18.18	22.87	16.49	13.99
Fats	4.48	9.87	7.13	5.72
Albumen, &c.	13.70	13.00	9.36	10.27

The altered structure contained a little more water, less fat, and more albuminates than the normal gray substance.

IX.—Margaret S—, æt. 65. Several years paralysed on the left side; subject to attacks of excitement; had persistent delusions as to being under electric influence. Died comatose during an attack of diarrhoea. Autopsy. Body in fair condition. Calvaria very soft and spongy. With the exception of a large quantity of fluid in the arachnoidal sac, two ounces in the lateral ventricles and some cysts in the choroid plexus, the membranes and substance of the brain appeared normal. The lower intestine was ulcerated.

In 100 parts.	Right hemisphere.				Left hemisphere.			
	Corpus striatum.	Thalamus opticus.	Gray substance.	Average.	Corpus striatum.	Thalamus opticus.	Gray substance.	Average.
Water	80.90	77.55	83.22	80.55	79.48	76.67	83.53	79.89
Solids	19.10	22.45	16.78	19.45	20.52	23.33	16.47	20.11
Fats	6.24	9.59	4.63	6.82	9.45	12.66	5.35	9.15
Albumen, &c.	12.86	12.86	12.15	12.63	11.07	10.67	11.12	10.96

It will be seen that the right side, or the side opposite the paralysis, contains more water, less fat, and more albuminates than the left.

X.—Julia W—, æt. 68. A case of chronic melancholia with hypochondriasis. Died comatose and paralysed on the left side after an illness of eight hours.

Autopsy.—Body emaciated. Dura mater presents on its internal aspect a rusty appearance on the right side, owing to numerous minute pin-point extravasations of blood. The left side presents the same appearance to a less extent, the dura mater surrounding the cerebellum is not coloured rusty. The arachnoid likewise presents multitudes of pin-point extravasations, which, under the microscope, are distinctly seen embedded in its substance. Lateral ventricles contained four drachms of turbid serum, and their lining membranes were studded with a few crystalline granulations. Cerebral substance apparently normal. The right side, that is, the affected side, contains a smaller quantity of fat and phosphorus than the left.

In 100 parts.	Right hemisphere.				Left hemisphere.			
	Corpus striatum.	Thalamus opticus.	Gray substance.	Average.	Corpus striatum.	Thalamus opticus.	Gray substance.	Average.
Water	80·91	79·28	88·70	82·96	80·54	78·12	86·12	81·59
Solids	19·09	20·72	14·30	17·04	19·46	21·88	13·88	18·41
Fats	3·27	9·35	1·76	4·79	7·89	7·59	4·19	6·45
Albumen, &c.	15·82	11·37	12·84	13·25	11·87	14·29	9·69	11·96
Phosphorus in 100 parts, dried at 230° Fahr. ....	...	...	0·536	...	...	...	0·594	...

XII.—Mary M—, æt. 65. Several years paralysed on the right side. Admitted in consequence of an attack of excitement. Died comatose during an attack of diarrhœa.

Autopsy.—Dura mater greatly congested. The vessels of the arachnoid were injected, otherwise it was normal. The whole left hemisphere was softened and disorganised. The right hemisphere appeared normal. The vessels of the base of the brain were intensely atheromatous. Large intestine ulcerated.

In 100 parts.	Right hemisphere.				Left hemisphere.			
	Corpus striatum.	Thalamus opticus.	Gray substance.	Average.	Corpus striatum.	Thalamus opticus.	Gray substance.	Average.
Water	82·05	80·09	86·25	82·79	86·05	82·13	85·38	84·52
Solids	17·95	19·91	13·75	17·21	18·95	17·87	14·62	15·48
Fats	4·81	7·94	3·77	5·51	5·03	5·71	4·55	5·10
Albumen, &c.	13·14	11·97	9·98	11·70	8·92	12·16	16·07	10·38
Phosphorus in 100 parts, dried at 230° Fahr. ....	...	...	0·782	...	...	...	0·497	...

In the case of the left hemisphere the brain-substance was so much softened that it was found impossible to separate the gray matter from the white, and a portion of both were taken; yet, notwithstanding the great additions made to the fat by the admixture of medullary substance, as in the two foregoing cases, the average amount of fat in the left hemisphere is not equal to that of the right. It remains now to sum up and compare the results with those of other observers.

1. Water. Bibra reckons his average maximum, mean, and minimum quantity of water, in brains of persons from 19—48, at the following per-centage:

Maximum.	Mean.	Minimum.
77·99	75·66	73·25

My average per cent. for seven cases is—

Maximum.	Mean.	Minimum.
80·38	78·26	76·68

A comparison of the different quantities found in different regions of the brain with those of other authors is instituted in the next table.

	Schlossberger.	Hauff and Walther.	Addison.		
			Max.	Mean.	Min.
Medulla oblongata .	69·72	72·9	82·78	76·68	73·37
Cerebellum and pons .	72·75	74·76	79·30	77·72	74·17
Crura cerebri .	—	—	79·93	76·04	73·88
Corpus striatum .	80	82·85	82·83	81·60	80·27
Thalamus opticus .	75·78	78·80	81·77	78·69	71·80
	77·78				
Cortical substance .	84·84—86·64		86·42	85·56	85·10
Medullary substance .	69·64—70·68		76·47	71·73	69·21

My results are about 3 per cent. higher than Bibra's ; this in part is explained by the fact that I examined the gray and white matter separately, and thus obtained a higher figure for the hemispheres ; but it will be found that they agree pretty closely with Schlossberger's, though generally they are a little higher. This is not surprising when we consider how often in cases of insanity we have to deal with effusions of fluid into the brain which may have existed for months before death. Then, again, slight variations will be caused by the length of the interval between death and the autopsy. It does not appear that the water of the cerebral substance directly plays any important part in its function.

2. Fats.—Bibra's average per-centage of the fats for eleven brains is 14·44 per cent. ; mine is only 9·66, making a difference of more than four parts. In phthisis he found 16·40, 12·75, 16·16, 15·30, and 14·77 per cent. In five cases of the same disease I obtained 12·19, 9·03, 7·96, 9·64, and 9·26. These numbers are low, but it must be borne in mind that, though phthisis does not appear to diminish the quantity of fat in the brain, yet it can scarcely be doubted that insanity, as a pathological process, can fail to be attended by very great alterations in the nutrition and composition of the brain. Bibra gives analyses of three insane brains, one a case of general paralysis with 13·25 per cent. of fat, another of chronic mania with 12·39, and a third of melancholia with 13·54. I do not doubt that these high results can be obtained ; I have two with 12·43 and 12·19 per cent. ; but I am sure that cases will be found at the other extreme, and it is absurd to build pathological conclusions upon three cases. The following tables will serve still further to contrast my figures with those of other writers.

Cort. sub.	Medullary sub.	Corp. striat.	Thal. opt.	Arbor vitæ.	Med. oblong.	Corp. callos.
Hauff 4·8—5	14·9—16·9	7 B.	9—11 H.	6—7 H.	12—15 H.	18 B.
Bibra 6·7	Hauff.	7—8 H.	8—9 B.	7—8 B.	16 B.	16·9 H.

The next columns contain still higher results :

	a. In individuals from 19—38 years. (Bibra.)	b. In persons from 59—86 years. (Bibra.)	c. In persons of middle age. Hauff.	d. In persons from 19—76 years. Addison.		
				Max.	Mean.	Min.
Medulla oblongata	17	17	15·5	16·47	11·60	5·07
Cerebellum	15·9	12	11—14	17·28	9·55	6·04
Crura cerebri	14·9	13·8	...	15·00	11·33	7·19
Corpora striata ...	12·8	11·7	7—8	10·36	6·98	5·30
Thalami optici ...	12·8	...	9—11	15·58	8·95	5·98
Hemispheres . .	16·0	13·9	14—16	Grey sub. 5·68	3·78	1·65
				White „ 18·77	15·41	11·90

It will be seen that my numbers are, as a whole, considerably lower than those of the others. I have generally found, not the medulla oblongata, but the common medullary substance, richest in the fats, and the gray substance poorest. In four cases the fat in the last stood respectively at 1·65, 1·76, 2·50, and 3·80 per cent., quantities unusually below the average, and comparable only with the results obtained in the case of the new-born child and in embryos (see Bibra's and Schlossberger's tables). This fact is very suggestive when we consider the mental condition of the patients. The first and last were found in the cases of congenital idiots, whose mental faculties had never undergone any change from birth; the second belonged to a cerebral hemisphere disorganised by paralysis. The third was obtained in the case of a dement. Nor less significant is the fact that in the three cases of paralysis the average quantity of fat was less on the diseased side than on the healthy. If these results should be confirmed by subsequent analyses something will have been achieved, even though they give but a pathological proof of what was physiologically assumed, namely, the great importance of the cerebral fats for the nutrition and function of the brain.

3. Phosphorus. The average quantity of phosphorus for five brains was 0·556 per cent. of cerebral substance dried at 230° Fahr. The amounts for the different regions are as follow :

	Maximum.	Mean.	Minimum.
Medulla oblongata . .	1·548	1·131	0·441
Cerebellum and pons . .	1·301	0·675	0·480
Crura cerebri	1·717	0·564	0·282
Corpora striata	1·851	0·959	0·368
Thalami optici	1·173	0·870	0·388
Gray substance	0·740	0·711	0·620
Medullary substance . .	0·441	0·356	0·163

The corpus striatum contained the largest quantity of phosphorus, and the difference between the gray and white substances, in this respect, is notably to the advantage of the former.

Having ascertained its relation quantitatively to the fat, I shall now compare my numbers with Bibra's :

BIBRA.				ADDISON.			
A girl,	æt. 19, in whole brain	2.53		A boy,	æt. 19, for whole brain	2.69	
A man,	„ 56, „	1.52		A man	„ 52, „	1.52	
A „	„ 80, „	1.93		A woman	„ 70, „	2.31	
A lunatic	„ 36, „	1.75		A „	„ 37, „	1.99	
A „	„ 52, „	1.87		A man	„ 50, „	1.03	

The differences are trifling; it must not, however, be forgotten that the figures, compared with Bibra's, are not the result of an analysis, but of a calculation. The maximum quantity was found in the case of a congenital idiot, which is not in accordance with the theory that dementia is connected with a minus quantity of phosphorus in the brain. Borsarelli ('Medical Times and Gazette,' August 31st, 1861) states that the amount of phosphorus in the brain varies from 1.352 to 1.790 per cent. I have not had an opportunity of consulting his communication in the original, and the translator does not mention what he means by per cent., whether recent or dried brain-substance. The same loose statement is also copied into the last edition of Carpenter's 'Physiology.' If fresh cerebral matter is meant, like all the earlier analyses of this substance, the results are incredible; if dried brain, he is not improbably correct. In that case my numbers generally would fall very far below the normal.

The results deducible from the whole foregoing observations are :—

1. A confirmation of the assertion that the different anatomical parts of one and the same brain present great differences in their quantities of water and fat (with the addition that these differences appear to be greater when complicated by insanity).
2. A confirmation of the fact that the gray substance is far poorer in fat than the white.
3. A confirmation of the law that the quantity of matters soluble in ether stands in an inverse relation to the quantity of water.
4. That in the greater number of the foregoing cases the results as to the quantities of water were slightly higher than those of other experimenters on sane brains.
5. That the quantities of fat were generally smaller, and that in two cases of idiocy, one of dementia, and one of chronic melancholia, they were below the quantity found in the new-born child, and in two cases not greater than the amount found in embryonal conditions of an early stage.
6. That the quantities of phosphorus did not have a parallel connection with the degree of intelligence.

7. That in three cases of hemiplegia the average quantity of fat in the corpus striatum, optic thalamus, and gray substance of the hemisphere opposite the paralysis, was less than the average quantity in the same parts of the other side.

8. That in a case of cancer cerebri the cancerous mass contained less fat and more albuminates than the unaltered cerebral substance.

I have to thank my chief, Dr. Howden, for permission to make use of everything connected with these cases, and to acknowledge that the microscopical observations are his.

The British and Foreign Medico-Chirurgical Review (April, 1866)
on the "*Lunacy Commissioners' Blue Books ;*" a Note by DR.
LOCKHART ROBERTSON.

THE current number (April, 1866) of the '*British and Foreign Medico-Chirurgical Review*' contains an article on the "*Lunacy Commissioners' Blue Books*," on which I wish to say a few words. The high character of that Review and of its editor (Dr. J. W. Ogle, physician to St. George's Hospital), gives a weight to the opinions of the writers of its articles, and almost compels on our part a notice of their statements when such are either inaccurate or unfair to members of the department of the profession which in these pages we represent.

To the ability and knowledge of insanity of the writer of this article I gladly bear witness. This review, as regards its critical analysis of the official reports of the Lunacy Commissioners of England, Scotland, and Ireland, is worthy of the distinguished place it occupies. My protest lies solely against the statements contained in its concluding paragraph. To prevent misapprehension, I quote it in full:—

"The English Lunacy Commission sprang out of great abuses; it arose when men's feelings were strongly roused by the wicked and cruel treatment the insane suffered, and the public was glad to see such crying evils swept away, even though it were by a somewhat violent stretch of authority; but with these evils has passed away the necessity for continuing a central despotism. Instead of resting satisfied with what power they had, the constant aim of the Commissioners has been to add to it, and all the recent acts passed have been devised to enable them to crush some opposition, or to extend their power, to give them the right to inquire into somebody's business, or to legalise some vexatious interference. There is nothing broad, comprehensive, or statesmanlike in the acts of late years—nothing to convey the idea of a wise measure originated to carry out a principle, or to secure endangered rights or liberties; on the contrary, the provisions are such

crously frivolous and trifling, and are a mere collection of devices to overcome some obstacles met with in the would-be triumphant career of these enterprising officials. To be mad now is to become a patient of the State, and the prescriptions should properly be dated from No. 19, Whitehall Place. The tyranny of such a power as the Lunacy Board is so oppressive as affecting the management of private asylums, that it has effectually extinguished all opposition, and proprietors, however conscientious and upright, are compelled in self-defence to defer to the powers that be.

"As regards the rulers of public asylums the case is not very different; for, though country gentlemen do not always find the yoke easy, they too often, conscious of their ignorance, accept the dictum of a body who are always ready to suggest, and if their advice is not taken, can embarrass a committee by persevering opposition, and threaten them with the terrors of the Secretary of State. There must be, however, a reaction at some time, and there are signs that it is already approaching.

"Lunatics are apt to be unpleasantly expensive at the best, but their cost has been maintained at the highest by the extravagance of the provision made for them; and for this the Commissioners are in great measure responsible, for they have been chronic stimulants to expenditure.

"Asylums are in England the Commissioners' panacea, and the expensive follies in which many of them abound are utterly wasted on the herds of fatuous paupers so accommodated in every county. This system is now openly challenged—nay, even deprecated by the Scotch Commissioners, who provide far more suitably for the chronic insane of all kinds; and this division in the official camp is likely to bring *public* opinion to bear on the general question, for pecuniary interests are proverbially powerful excitants. We readily admit the good of official inspection and a controlling power, but a continued meddlesomeness is almost worse than the evils it is meant to counteract."

On this sweeping condemnation of the English Commissioners in Lunacy, and by direct implication of the Medical Officers of the private and public asylums in England, I would briefly observe—

1. That all the recent legislative enactments to consolidate and extend the jurisdiction of the Commissioners in Lunacy, so far from originating with that board, have been added to the lunacy acts by independent members of the House of Commons. A writer on lunacy matters must be very ignorant of public opinion if he fail to recognise the strong feeling which exists (and I myself think most justly) among all classes of society in favour of the fullest inspection by public officials of the insane, whether in public or private asylums, or in private dwellings, and of the widest protection being thus given to them alike in their persons and in their affairs. The reviewer speaks of all the recent acts "as having been devised to enable the Commissioners to crush some opposition or to extend their power, to give the right to inquire into some body's business or to legalise some vexatious interference." On the other hand, I view these acts as earnest efforts of the legislature further to secure the rights and liberties of the insane, endangered as they necessarily are by the steps required to enforce their safety and that of the public.

The recent lunacy legislation to which the writer evidently chiefly refers is the 'Lunacy Acts' Amendment Act, 1862' (25 & 26

Vict., c. 111). I entirely differ from him in viewing its provisions as "ludicrously frivolous and trifling," or "a mere collection of devices to overcome some obstacles met with in the would-be triumphant career of these enterprising officials" (the English Commissioners in Lunacy).

In this Journal for October, 1862, will be found an able summary of this act, written (it is no secret) by Dr. Bucknill just before his appointment as Lord Chancellor's Visitor. Dr. Bucknill expressed there a different opinion from the reviewer in the 'British and Foreign.' "This act," he writes, "appears to us on the whole a wise and judicious measure of legislation. It must undoubtedly be accepted as the result of the agitation against the lunacy law, and of the inquiry of the special committee of the House of Commons which ensued upon it about three years ago." The act extends the powers of the Commissioners in Lunacy as regards the licensed houses, both with reference to the licence, to proposed alterations in the fabric, to the appointment of resident medical officers in the same, to the discharge of patients whose certificates are defective, to permit patients to be absent on trial, to the forwarding of letters of private patients to the Commissioners unopened, and to various other matters relating to the well-being of the patient. I call such provisions neither frivolous nor trifling, but a wise extension of the protection which the law affords in public asylums to pauper patients, to those of the upper class detained in licensed houses or as single patients. I only thus refer to a few of the leading provisions of this act, which Dr. Bucknill terms "a wise, judicious, and satisfactory measure;" but I think I have said enough to indicate the grounds on which I dissent from the 'Medico-Chirurgical' reviewer in his estimate of it as a "mere device to enable the Commissioners to inquire into some body's business or to legalise some vexatious interference." Public opinion regards the care of the insane in every detail as the special business of the Lunacy Commissioners, and the House of Commons does not think that they can inquire too minutely into it.

2. I further challenge the reviewer's assertions as to the results on our department of the profession of the "oppressive tyranny of the Lunacy Board." As regards the county asylums I may venture with some authority to speak, being in intimate relations with most of the leading superintendents. I cannot, then, refrain from characterising his observations on our relations to the Lunacy Board as silly impertinence. "To be mad," he writes, "is to become a patient of the State, and the prescriptions should properly be dated from 19, Whitehall Place." The insane, as the shameful experience of the past sadly proves, require the most vigilant supervision of the State to protect them from ignorance, avarice, and cruelty; and, as the insane of every class become, as I anticipate they will, more

and more the patients of the State, so greater, in my opinion, will be the measure of their immunity from the terrible sufferings which, through the want of such supervision, has in the recent past been too often added to the affliction of their disease. That the Commissioners attempt to control, as the reviewer would imply, the medical treatment of the insane, is inconsistent with facts. Nothing, on the contrary, can exceed the scrupulous deference and respect which they pay to the opinions of the medical superintendents of the county asylums in all that relates to the treatment of the patients. To strengthen our position with the Visitors and to extend our authority in every department of the asylum has been the consistent tradition of the Lunacy Board, not the spirit which would "dictate our prescriptions from Whitehall Place." Then, as to the Visitors themselves, a writer who can picture the county magistracy of England as "accepting the dictum" of any central authority in the management of the county business must know little of the spirit of independence, passing sometimes into obstinate adherence to formed opinions, which pervades the gentry of England in the discharge of their public duties. Men, whose fathers defied the terrors of the Star Chamber and the Privy Council are not likely to submit in humble deference to the limited powers of the Lunacy Board, were this control attempted. Such is, however, very far from being the case. The influence of the Commissioners in the county asylums is moral, so to speak—not physical. Their suggestions carry weight from their intrinsic value, not from any use they make of the "threatened terrors of the Secretary of State."

I am quite sure that any one familiar with the business of a county asylum committee-room will smile at the reviewer's picture of the Visitors acting on the suggestions of the Commissioners under a threat of appeal to the Home Office. It is too absurd for further discussion.

Next, as regards private asylums, the reviewer says that "the oppressive tyranny of the Lunacy Board has effectually extinguished all opposition, and proprietors, however conscientious and upright, are compelled in self-defence to defer to the powers that be." I have also some personal acquaintance with the medical proprietors of private asylums, and I know that the reviewer in this opinion would not command the concurrence of the more able of that hardly-judged body of men. Moreover, the reviewer does not tell us whether the upright and conscientious proprietors to whom he refers, as being compelled to defer to the powers that be, are medical men, or lay speculators in lunacy. In either case I could mention, were it desirable, the names of several private asylums in which during the last twenty years I have seen how the unwearying efforts of the Commissioners to better the condition of the insane have also called out a similar spirit of emulation in well-

doing on the part of the proprietors ; and so in mutual zeal for the well-being of their patients has "the deference to the powers that be" resulted in a constant and steady progress in the conduct and management of these asylums. I do not think their proprietors will thank the 'Medico-Chirurgical' reviewer for his estimate of their position.

3. Lastly, I would say one word on the coming reaction against this reign of terror and official tyranny which the reviewer believes to be near at hand. "There must," he writes, "be a reaction at some time, and there are signs that it is already approaching." The county asylums, in his opinion, "abound in expensive follies," and "the maintenance charge for lunatics is kept at the highest by the extravagance of the provision made for them," and which is, moreover, "utterly wasted on the herds of fatuous paupers so accommodated in every county." I hope the English superintendents are pleased with the reviewer's sketch of their asylums.

The remedy which he believes to be near at hand lies, he thinks, in the example set by the Scotch Commissioners of licensing private dwellings for the reception of chronic lunatics.

I have already discussed this wide question at some length in this Journal for January and April, 1865, in two papers "On the Means of Providing for the Yearly Increase of Pauper Lunatics." I there expressed an opinion that if the system of boarding patients in private dwellings were properly worked (by which I mean, if the supervision of the patients thus boarded out were removed from the Poor Law officials and Union surgeons, neither of whom are at all equal to the task, and transferred to the Visitors and Superintendent of the county asylum), we might with advantage extend the proportion of the insane poor so cared for. I much doubt, however, whether even then we should attain the proportion of Scotland, viz., 32 per cent. In a rich and thickly-peopled country like England, where labour is abundant and wages high, the number of cottagers who would consent to receive as boarders, lunatics—either relatives or not—are not so numerous as in Scotland. Neither would the plan ensure the same economy. They manage it in Scotland to Dr. Mitchell's official satisfaction for sixpence a day ! I have practically failed to obtain what I regard as necessary comforts for chronic lunatics for one shilling a day. So much for a different standard of requirements.*

The reviewer concludes these criticisms, from which I have endeavoured to defend the department (official and medical), by the

* Dr. Boyd also brought this question before the Annual Meeting of the Medico-Psychological Association (1865); and his resolution, which was unanimously adopted, pointed to the same conclusions as I had previously arrived at, that the care of all of the insane poor should be transferred to the Visitors and Superintendents of the county asylums.

statement that our present system is "openly challenged—nay, even deprecated by the Scotch Commissioners, who provide far more suitably for the chronic insane of all kinds." I demur again to his assertion. The Scotch Commissioners have neither openly challenged nor deprecated the English public asylum system. On the contrary, a perusal of their official reports will show that their steady efforts are directed to keep the Scotch chartered houses and the district asylums up to our English standard.

A deputy commissioner for Scotland, I am aware, indulges in day-dreams of asylum reform such as the reviewer here endorses.* These theories have been ably refuted in a paper in this Journal for July, 1865, "Gheel in the North." I conclude my present remarks with an extract from it:—

"It is, however, worthy of profound consideration, that a large number of those who seek to introduce such a change as would reduce asylums to mere hospitals for the treatment of acute, or lock-ups for the safe custody of violent and dangerous cases, and would convert every village or homestead into a Gheel, are, though able and benevolent theorists, either non-professional, as Duval; or, though professional, as Mundy, Bulkens, Parigot, &c., are utterly ignorant of asylum life. They have never lived in close contact with the insane; and, if familiar with cottage scenes such as are pictured in Burns's 'Cotter's Saturday Night,' or with the charitable missions of such idiots as 'Betty Foy's Boy,' cannot pretend, and do not, we conceive, pretend, to know anything of the inner and habitual life of the insane, nor of the forbearance, the outpourings of kindness, and attention, and adroitness, if not the delicacy, required and positively exercised towards them by their guardians, even in the worst asylums. These writers are amiable amateurs, sanguine optimists, who, strong in a non-medical theory as to mental disease, and electing a few glimpses of the superficial and favorable relations between the insane and sane, conceive that, given a tolerably clean and comfortable house, swept and garnished, though it may be by the spirits of gain and greed, and an honest or enterprising clodhopper; a chronic lunatic is, under such circumstances and governance, safe, well treated; or, as well cared-for, and with as good chances of amelioration and happiness, as if he were in an asylum surrounded by every scientific contrivance and source of health, and under the constant supervision, and, in one or more senses, under the care and treatment of an educated and experienced physician."

So much for this accomplished writer's estimate of Dr. Mitchell's theories here resuscitated by the 'Medico-Chirurgical' reviewer.

The writer of this article "Gheel in the North" further gives us a picture of these homes in private dwellings to which the insane in Scotland are, with the approval of the 'Medico-Chirurgical' reviewer, transferred. This practical testimony is so important that I venture in conclusion to reproduce it here:—

"Of 200 cases now resident in the south-eastern district of Scotland, there laboured under:—

* I have formerly referred to the want of practical knowledge of the treatment of the insane in public asylums which Dr. Mitchell's writings betray.

	Males.	Females.	Total.
Idiocy	37	24	61
Imbecility	34	25	59
Dementia	15	21	36
Chronic Mania	4	5	9
Recurrent Mania	1	1	2
Monomania of Suspicion	1	1	2
Melancholia	—	3	3
Dipsomania	1	—	1

But these numbers must suffer a considerable diminution by deducting the unfortunates who are physically incapacitated from rationally or freely participating either in the pleasures or labours of freedom. Twenty-two are confined to bed; twenty cannot walk; six are lame from dislocation of hip and other causes; eight totter or stagger during locomotion; eleven fall from syncope or other causes; four bear the marks of bruises and burns on their body; thirty-six, from inability or disinclination, never leave the house either for exercise or any other object; eighteen do so rarely, and thirteen never go beyond the cottage garden. But even when in a state to go beyond the threshold, the capacity of many to take advantage of the privileges of their position must be greatly limited by infirmity and disease, as twenty-five are described as epileptic, eleven as paralytic, four as choreaic, seven as deaf, eight as being of imperfect vision, eleven as bronchitic and asthmatic, two as rheumatic, six as labouring under strumous sores, one under otorrhœa, one under incontinence of urine, and thirty-one as of dirty habits. Yet, notwithstanding this sad catalogue of maladies and frailties, many are never visited by a medical man, others at rare and long intervals, the majority quarterly. Five, however, occasionally receive daily visits. Of the whole number only sixty-four were found employed, twenty-five in domestic work, four females in gardening, twelve in occasionally carrying messages, three in field-work, three in sewing, and one in keeping a coal-store, in chopping wood, as a bookseller, as a butcher, &c. It is very doubtful that above two or three could have maintained themselves, and only one actually did so: the work of a vast proportion was mere play. Even the romance of rurality—of the sights, and sounds, and smells, and associations of country life, the sequestered cot, the upland farm, which have been cast around this scheme, must be sorely invaded if not dispelled, for of the 200 visited 176 lived in towns or hamlets, and only twenty-two in detached houses or farms, and 150 in streets or by the side of the road. When the analysis is carried further, it is discovered that fifty-one live in dirty and confused houses, eight in others so foul as to be unhealthy, that four live in solitude, ten in poor-houses; that three have notorious erotic tendencies, one of whom has borne three illegitimate children; that seven are drunkards, and one is a drunkard in intention; while four live under the guardianship of drunkards, and three under that of immoral persons. The qualifications of this class may further be conjectured from the wardrobe of their charges: we do not allude to the careful patch, the ingenious darning, for such are the fruits of industry as well as the confessions of 'honest poverty,' nor to the wind-ventilated tatterdemalion; but to eighteen demented with filthy, greasy, redolent clothes; to thirty-seven with dirty, untidy, neglected dresses; to six stalwart idiots arrayed in petticoats; to nineteen of whom the skin and person were uncleanly; to one who is reported to have been naked for twenty-three years; to forty-two of whom the bed and bedding were cold, comfortless, wretched; and to three instances in which adult men occupy the same bed with their mothers. It cannot even be claimed as a merit of the 'air libre' system in Scotland, that thirty-six go at large and to long distances, disappearing for days; that seven roam within the boundaries of their native village; that

thirteen are so free as to be destructive; eight so insubordinate under the mild dominion to which they are subjected, as to require, or at all events to receive, corporal castigation; that five are exposed to one of the penalties of unrestricted liberty, in being molested and persecuted and struck by children, who are, however, stronger or more intelligent than themselves; and five earn the designation of white slaves by toiling in the performance of the work of the family towards whose support they at the same time contribute their parochial allowances. We have not now examples of caged men. The bed of one lunatic was constructed and used as a cage. They have disappeared before the benign authority of the Commissioners in Lunacy, and have been absorbed among the decencies and comparative freedom of asylums; but as substitutes we have the domestic oubliette in the form of a box-bed; the durance vile of solitude, or seclusion in a cottage, while the family are at harvest, or church, or market; or the rope and the sheet which limit motion; or the dread of bludgeon law, as in those cases above specified, in which its enforcement was admitted, and in many others where it is suspected but concealed, in recognition of the popular respect for humane treatment, which they practically disregard. And although the straps and strait jacket, which at no distant period hung ostentatiously among the horse furniture upon cottage walls have disappeared, the wrists and ankles of individuals received into asylums within the current month prove that restraint, though banished from such establishments, is still resorted to, and is perhaps justifiably, or at all events unavoidably, resorted to in the homes and by the friends of the insane. * * * * *

"There are many happy and well-constituted homes among the thousands which contain an insane inmate; these are the expression of the best elements of the national character, of individual manifestation, and of a sense of propriety, good feeling, and good taste. They have always been good; and will, in spite of privations and bad seasons and bad houses, continue clean, cosy, and judiciously administered. The dispositions of the population of Gheel are said to be the result of a thousand years' training and consuetude; and the few glimpses of national philanthropy and higher culture which may be obtained among the peasant custodians of the insane in this land, are, assuredly, *not* to be traced to annual, or occasional visits of some few minutes' duration, by Inspectors of poor and other officials, but to idiosyncracies, or principles enshrined in our common nature, and to be found whenever and wherever circumstances favour their development. That supervision and instruction and example have influenced, and will influence, the growth and extension of the comfort and decencies of cottage life, cannot be doubted; and that such agents should be kept in constant operation is indispensable; but for ages to come such machinery must be powerless against prejudices, peculiarities of race, habit, &c.; and must leave the good and bad cases of domestic treatment of lunatics, in almost all important respects, where it found them. When civilisation, and a higher standard of living, and a keener appreciation of minor morals shall have penetrated more deeply into the substrata of society, to the indigent and industrial classes, and assimilated cottage interiors and management to the infirmities and habits and requirements of the insane, the substitution of private dwellings for public hospitals for certain classes of the insane as a general economic and national measure may be useful, as well as practicable; whereas, at present, it can only be regarded as an evil which it is a public duty to mitigate as much as may be possible."

Does the 'Medico-Chirurgical' reviewer still see in this picture of the insane in private dwellings a remedy for the shortcomings of our English asylum system?

CLINICAL CASES.

Cases of Epilepsy, Paralysis, and other Diseases of the Nervous System, treated successfully, chiefly by means of Ice. By JOHN CHAPMAN, M.D., M.R.C.P.

IN the number of this Journal for April of last year there appeared an article entitled "Neuropathy, or Vaso-Motor Therapeutics: a new method of treating disease through the agency of the Nervous System." At the end of that article I proposed to discuss in the succeeding number the applicability of the method to the treatment of cerebral affections. The great claims on my time have, however, prevented me from fulfilling my intention, which, though not relinquished, is still necessarily deferred. Meanwhile the following cases will, I hope, be found both interesting and instructive, and, at the same time, illustrative not only of the general doctrines announced in the article just referred to, but also of the power of cold or heat, when properly applied along the spine, to increase or lessen the cerebral circulation, and hence to operate beneficially in the treatment of the majority of forms of cerebral disease. Within the space allotted me I have given a selection of cases of various kinds, in order to exhibit the wide range of applicability of the therapeutical method in question at least in so far as what are called diseases of the nervous system are concerned. But, if I am not greatly mistaken, nearly all those morbid states not hitherto regarded as diseases of the nervous system will ultimately be recognised as such. On this important point it seems expedient that I should repeat here the following brief statement which occurs in the article above referred to:—"The more diseases are studied with the intention of finding out what are their proximate causes, the more indisputably, I believe, will the truth become established that the great majority of them may be generalised as phenomena which, though differing widely from each other in character, alike originate in abnormal functions of the nervous system; that those abnormal functions are of two kinds, the one excessive and the other defective evolution of nervous influence; that both these excessive and defective actions are, counting backwards, secondary phenomena proximately due in the one case to an excessive, in the other to a defective supply of blood in the nervous centres, and, more remotely, to a disturbance

of the balance of those forces on which the afflux and efflux of blood in those centres depend." If the details of the following cases be carefully studied, they will be found to yield many remarkable proofs of the truth of this statement; for disordered states, not only of the brain, but of the lungs, the stomach, the bowels, the bladder, and of the generative organs—both male and female—are seen to be alike amenable to the remedial agency of cold or heat applied along the appropriate parts of the spine. The therapeutical innovation which is the logical consequence of the doctrine just affirmed will, I believe, assume a magnitude little less than revolutionary of the established principles and practice of physic: holding this belief, it seems to me that a few cases in which the full particulars of the state of the patient before, during, and after treatment, and of the treatment itself, are circumstantially reported, will prove of far more scientific and practical value than a large number in which little more than the results achieved are recorded. This consideration will, I hope, be received as an adequate apology for the length to which some, at least, of the following reports extend.

It will be observed that in several of these cases bromide of potassium has been used, simultaneously with ice, to the spine. As among the long list of medicines used, and generally used in vain, in the treatment of epilepsy or epileptoid diseases, this drug is believed to be the most valuable, I feel bound, in duty to my patients, to avail myself of it, as of other medicines, whenever there seems to be a chance that it may prove beneficial. Those physicians who have had most experience in prescribing it will be able to judge most correctly to what extent it has played a part in effecting the cures here reported. In several of the cases, however, this drug was not given; and in some no medicine whatever was used.

CASE I.—Epilepsy with epistaxis.—H. C.— A young lady was brought to me November 24th, 1864, suffering from epilepsy, the paroxysms of which recur about three times a month. When an attack is coming on, she feels a "sort of dizziness," and the vision becomes dim; but this "dizziness" often occurs when a fit does not immediately follow. During the fit, her head is turned to the left side, she falls down, is convulsed, her face becomes purple, and then, having become exhausted, she lies still a few minutes, after which she recovers without any interval of sleep. The attacks are followed by headache, generally severe. In the intervals she has but little headache: her face, however, often becomes flushed, especially on leaning forwards. She thinks her attacks generally occur after dinner. Has not yet begun to menstruate. Suffers frequently from bleeding at the nose, which has seemed to recur at monthly intervals, though the fits show no tendency to do so. Feels a sense of fullness about the chest; the hands are generally cold, the feet almost always so. Pulse 100.

She had convulsions when fifteen months old, while teething, and again when two years old. In her seventh year she had measles, and at that time had a fit. Soon afterwards she had another; and in her tenth year she had five or six in one day, each lasting about two minutes. The attacks then

recurred at intervals of about three months, and have since gradually increased to their present rate of frequency.

To apply ice along the spine in each cell of the spinal ice-bag during an hour twice a day; to wash all over each morning; to take the following medicine:—Ammonii Bromidii, Potassium Bromidii, aa gr. iij.; Tinct. Calumbæ zss ; twice a day; and to keep the bowels open by means of aperient pills prescribed at the same time.

November 30th.—Has borne the ice without discomfort. During three days out of the four, the feet have been warmer. To apply the ice ninety minutes each time. Medicine as before.

December 15th.—Has had no fit, but two “threatenings;” and one day had pain on the left side of the head, seemingly in the scalp. The feet are always “quite warm” now. The bowels continue costive. Ordered a saline aperient in addition to the pills.

29th.—Feels quite well; no fit, no “threatenings;” tongue clean, bowels regular without the aid of aperient medicine. Pulse 88. To apply the ice along the whole spine during an hour at 8 a.m. and 8 p.m., and in the two lower cells only during and after lunch, also for an hour. \mathcal{R} Ferri et Quinæ Citratis gr. ij. each day before dinner.

January 14th, 1865.—Had a fit, less severe than usual, after an interval of seven weeks and two days. Pulse 92. To go on with the ice as before. Discontinue the citrate of iron and quinine, taking half a drachm of compound tincture of quinine instead, and to increase the dose of bromide of potassium to five grains.

22nd.—Had a fit, followed by severe headache, which was relieved by the application of ice to the lower third of the spine. Says that the left hand has fallen asleep during the last four days, and that the headache is apt to be on the left side. Treatment as before. Her nose has never bled since the treatment began.

March 18th.—No fit. The young lady’s mother writes, “Your patient has been quite well, having had but two headaches and no more bleeding of the nose since I last wrote.” The bowels, however, are constipated. The ice to be applied as before; to increase the dose of the bromide of potassium to $7\frac{1}{2}$ grains, and to take Pil. Aloes cum Myrrhâ gr. v—x occasionally at night, a dose of a saline aperient mixture being taken the following morning.

April 11th.—No fit; no more headaches; no epistaxis; but the bowels are still constipated unless aperient medicine be used. To apply the ice as before, but to continue it each time until it has melted.

May 5th.—No fit. About twelve days ago became feverish, and on the 28th ult. began to menstruate. The flow has continued a week, and has been very profuse. To apply ice in each cell of the spine-bag during an hour each morning; to omit it as soon as symptoms of menstruation recur, and during the period, and then to reapply it each morning as before. \mathcal{R} Tinct. Quinæ Co. zj , before lunch daily. \mathcal{R} Potassii Bromidii gr. viij, Tinct. Calumbæ zss , each night.

22nd.—Has had several “threatenings” or “sick-feelings,” causing her mother to become anxious. The bowels are less costive, and are more easily influenced by aperients than formerly. To apply the ice in the evening the same as in the morning during an hour until the menses recur, then during half an hour throughout the period. To continue the quinine as before, and to take the bromide of potassium each morning as well as night.

June 12th.—Menses returned at the end of May, by no means profuse. Ice as prescribed was continued throughout, and was borne with comfort. Has had “threatenings” once or twice, but very slight. Flushes in the face frequently. Feels strong; appetite good. To apply ice in all three cells of spine-bag morning and afternoon, and in lower two cells each night, till the

ice melts; and to continue the same during the next menstrual period. Discontinue the quinine; take the mixture as before.

July 20.—No fit, no "threatenings." Flushes but rarely. Menstruated healthily at the beginning of the month. To continue in all respects as last ordered; and then, after the next menstrual period, if all goes well, to cease applying ice in the middle of the day.

October 3rd.—Has continued well, and has menstruated freely without any accident, using ice as ordered, meanwhile.

November 15th.—Is quite well in all respects.

On the 28th of the same month her mother wrote, "Your patient has gone through a great deal of excitement, but continues well. She has been using the ice lately one hour in the morning only." I then ordered cold water in each cell of the spine-bag to be applied until it becomes warm, each morning and after dinner; and all medicine to be discontinued.

January 13th, 1866.—Her mother wrote, "Your patient continues well. Has not used the spine-bag for a month past." I have not heard of her again; but I am sure I should have done had there been any relapse.

CASE II.—*Epilepsy with persistent headaches and epistaxis*.—November 16th, 1865.—S. T. J.—, male, æt. 17, suffers from convulsive fits, impairment of mental powers, headache, and bleeding at the nose. The fits begin by "a loud gurgling noise" or "a low cry like a distant railway whistle;" he becomes very pale; then he is seized with convulsive shriekings or "violent contraction and quivering of the muscles" all over the body, merging into "stiff insensibility;" then there are gulphings in the throat, or unconscious efforts to swallow, which are followed by the exudation of "a mouthful of slime," and then "he falls back and goes into a very deep sluggish sleep." Each fit lasts about two minutes and a half. The attacks recur almost invariably about 1.30 a.m., and generally on alternate nights during about a week; then having been free from them about a week or ten days, the patient is seized again in the same way. During the period of recurrence of a group of fits, his friends count so confidently on their reappearance that they do not feel it safe to leave him at night until he has had one. Suffers frequently from headache, heaviness of the head, and sounds "as of rushing waters" in the ears. During the last fortnight, he has been peculiarly dull and listless. Is greatly troubled with epistaxis: during the last fortnight his nose has bled every day. He also suffers from frequent nocturnal emissions. He has noticed that the attacks are preceded by great coldness of the hands and feet; and his brother remarks that though he has a slight flush immediately following the fits, he is very pale during their onset, and for several hours or even a day afterwards. The pupils are large. Pulse 60, feeble. Tongue fairly clean; bowels constipated; appetite voracious.

Other members of the patient's family have suffered or suffer from disease of the nervous system. An uncle was epileptic, and a brother is now under treatment on account of epileptoid symptoms. The patient himself was a bright, promising youth, successful in his studies, until symptoms of disease of the nervous system, associated causatively, I have reason to believe, with the development of puberty, were experienced. These gradually increased, becoming successively spasmodic, epileptoid, and at length completely epileptic.

I ordered flannel to be worn next the skin, good nourishing diet, stimulants to be taken very sparingly, ice along the lower half of the spine 30' three times a day, and the following medicine: Potassii Bromidii, Ammonii Bromidii, aa gr. iv; Infus. Calumbæ ʒj; bis die.

November 20th.—No fit. The head feels better; epistaxis much lessened;

feet warmer. Pulse 84. Bowels open daily. To increase the night application of ice to 45', and to take the medicine three times a day.

November 23rd.—No fit. Epistaxis yesterday several times. Patient says, "I feel a great deal stronger than I did." Feet decidedly warm now, although he has less exercise than he had in the country before he came to town to place himself under my care. Pulse 88. Bowels "very regular." To apply spinal water-bag at 115° Fahr. to upper third of spine if "heaviness" or epistaxis supervenes. Treatment in other respects as before.

November 27th.—No fit; no epistaxis. Patient again reports himself "stronger—a great deal." His brother says that "whereas he had extreme depression and headache about four days a week before treatment, he has had only once such day since it began. Feet continue warm. Pulse 88. Pupils natural. Bowels open daily. To lengthen the time of applying the ice after dinner to 45'.

30th.—No fit; no headache. Slight epistaxis one night. Has been rather wakeful the last two nights; fairly warm. Pulse 92. Bowels regular. Has had no emission since the ice has been applied. Ice as last ordered. Medicine as follows:—Pot. Brom. gr. viij, Am. Brom. gr. v, Inf. Calumb. ʒj, morning and evening; Quinæ Disulph. gr. j, Acid. Sulph. dil. m v, before dinner.

December 4th.—No fit; no headache. Has felt his brain clear and light. No epistaxis. Has slept fairly well, and has continued warm. But yesterday he fatigued himself, and now feels exhausted. His pupils are very large, and his pulse but 66. To apply the ice along the lower two thirds of the spine each morning. To lengthen the time of the night application to 60', and in other respects to continue as before.

7th.—No fit; no epistaxis. Pupils normal. Bowels act quite regularly, and earlier in the day than formerly. Pulse 88. Patient feels well in all respects. To apply ice in the whole of the middle cell of the spine-bag at noon as well as in the morning.

21st.—Continues well. Pulse 84. To apply ice along the whole spine morning and noon 45', and to lower two thirds of spine each night 60'. The patient now returned to the country, and I have not seen him since.

31st.—His mother writes, "With great pleasure I write to tell you my son returned home greatly improved in health, so evident even to indifferent persons as to be constantly congratulated. He is much stouter, and has more colour in his face and lips. He has had no attack, but his nose has bled twice very slightly. His pulse is strong and full, beats 80 in a minute." I again ordered a change in the use of the ice, viz., to apply it along the whole spine only in the morning, along the lower two thirds in the afternoon, and along the lower third each night. Medicine as before.

January 23rd, 1866.—Had a fit at 1.10 a.m. on the 20th inst. The previous day he did a good deal of gardening, and ate "a very heavy supper of meat at ten o'clock, though," as his brother writes, "I had cautioned him against it." To continue the ice as last ordered, but during 60' each time, and to take the following:—Quinæ Disulph. gr. ʒ, Acid. Sulph. dilut. miv, morning and noon; also, Pot. Brom. gr. viij, Tinct. Calumb. ʒss, each night.

March 27th.—Has continued well in all respects, except that now he complains of having a cold and cough. To restrict the ice to the lumbar region only: if the symptoms should not shortly afterwards subside, to omit the ice altogether; and if they should not then soon disappear, to apply spinal water-bag at 115° between the scapulæ. To omit all medicine.

May 7th.—A brother of the patient called upon me a few days ago, and informed me that his health has continued excellent in all respects.

CASE III.—Epilepsy with incessant headache, cough, hæmoptysis and copious expectoration.—K. E., æt. 15, first seen by me December 9th, 1865. She suffers from violent convulsive fits, which recur from about twelve to twenty times a month. They have all the characteristics of the fully-developed epileptic paroxysm. She is peculiarly restless at night; jumps much in her sleep, and rolls her eyes about as if the brain were congested. Has had headache almost incessantly during several years: she remembers complaining of headache when she was six years old, and when, as she states, her mother used to "jaw her," saying she was always complaining. The pain is chiefly in the forehead, and imparts a peculiarly heavy and oppressive expression to the countenance. The girl says—"Most every morning when I get up I have a dreadful headache," and that the head is then especially hot. It is decidedly hot now. She frequently spits blood—rarely more than a teaspoonful at once—and has done so for a considerable time: having on one occasion done so about nine months ago, she told her grandmother, who said—"Oh! that's nothing, because you've always had it." The girl remembers spitting blood twelve months ago, and has done so quite a dozen times this year, including once last week. Is also troubled with copious expectoration, generally yellow. Has a cough, which is worst in winter; and during the night and early morning complains of almost constant pain in the left side, immediately beneath the mamma. Has great difficulty in going up stairs; gets out of breath, and has a feeling of suffocation and giddiness. Sighs deeply and frequently; respirations between fifty and sixty per minute. Apices of both lungs tender on percussion; breathing in each, rough and seemingly bronchial. Bowels constipated, fæces very hard. Began to menstruate about twelve months ago, then about a month afterward had rheumatic fever for the second time, and "never saw anything again until about two months ago, when the menses recurred, and have done so since,"—she says copiously. Feet always cold night and day.

The patient has been for a long time cruelly used by her mother, who finally deserted her eight months ago. About five years ago her mother, while drunk, so terrified her by beating her, that the girl escaped by getting out of a window of a third floor, to the sill of which she clung: she was rescued from this perilous position by a woman, who, putting herself through the window of the floor below, caught hold of the legs of the patient, who, losing her grasp above, swung downwards and bumped her head against the wall. A few days afterwards she had "rheumatic fever," on recovering from which she had her first epileptic fit.

I prescribed a teaspoonful of cod-liver oil twice a day; four grains of bromide of ammonium and of bromide of potassium twice a day; and ice to the lumbar region exclusively 20' three times a day.

December 26th.—Has had only three fits; headache but once, on the day of one of her fits; and no hæmoptysis since the 9th instant. The head is cooler; the cough decidedly better, expectoration much lessened; pain in the side lessened both in intensity and frequency; respirations, twenty-four per minute. Feels a little warmer—her feet "don't feel so cold;" pulse 116; tongue clean; bowels open daily. Has not menstruated since last visit. To increase the time of applying the ice to 30'. Medicine as before.

March 3rd, 1866.—In January "she took ill and had rheumatic fever;" she was taken to an hospital, which she left three weeks ago, being then sent to the Convalescent Institution at Walton-on-Thames, from which she returned four days ago. Since December 26th she is said to have had only two fits, which, however, were very severe. Sleeps better; has headache once or twice a week, pain in the side but seldom; pain at the stomach and between the shoulders, almost taking her breath away, occurs two or three times a week; has not spit blood; expectoration much lessened; cough

slight until the present severe weather; feet fairly warm; pulse 80; menses recurred on the 26th ultimo; tongue slightly furred; bowels regular. To resume treatment as prescribed December 26th.

March 9th.—No fit; sleeps well; has had no pain of any kind, and no hæmoptysis; but still a short, hacking cough, "most at night and early morning." Feet warmer "than they was," pulse 104—unsteady. Tongue quite clean; bowels open daily. To increase the evening application of ice to 45'. In other respects continues as before.

March 16th.—Keeps well in all respects, and seems, says her attendant, "more cheerful and better altogether." Appetite improved; has, however, had headache three or four times. Continue the ice 45' three times a day: medicine as before.

March 23rd.—Had headache slightly once; complexion much clearer; neither cough nor expectoration; feet "a great deal warmer;" pulse 80; tongue clean; bowels regular.

℞ Ammonii Bromidii gr. iv, Potassii Bromidii gr. ij, Tincturæ Cherettæ ʒss, bis die. Ice as before.

April 3rd.—Has a violent headache, which has continued five or six days, the head being hot. I applied a spinal water-bag (temp. 115° Fahr.) to the cervico-dorsal region, while the patient remained in my consulting-room. It took the headache entirely away. It is now forty days since she last began to menstruate. To re-apply the water-bag if the headache should recur, and to continue treatment as last ordered.

April 10th.—Became "unwell" on the 7th instant, and is still so. Has had no headache since last visit. Treatment as before.

April 17th.—Still no fit; no headache since last here; menses continued copious for six days; no cough; no hæmoptysis. To apply ice to the middle as well as to the lower third of the spine each morning 45'. Treatment in other respects as before.

April 24th.—On the 20th inst. became very feeble. "There seemed," says the attendant, "such a faintness and prostration of the system;" she lost her appetite; looks extremely pale, and has had headache each day. No fit. Pulse variable—about 100, strong and full in right wrist, scarcely perceptible in left. Has a slight hacking cough, and complains that the throat and centre of the chest are sore—"like a piece of raw beef." Tongue coated. To restrict the ice again to the lower third of the spine as before. To apply heat in spinal water-bag to cervico-dorsal region, if headache continues. ℞ Liq. Ammon. Acet. ʒiss, Pot. Bicarb., Pot. Brom., āā gr. viij, ex aquâ; each night. ℞ Quinæ Disulph. gr. ʒ, Acid. Sulph. dil. mʒ, before breakfast and dinner.

May 2nd.—Has improved daily since last visit. No fit; no headache; no more faintness or prostration; cough nearly gone; soreness of throat and chest gone. Began to menstruate this morning—twenty-five days from the beginning of her previous period. Pulse 84—steady; the difference of its force in the two wrists still the same. Tongue quite clean, appetite recovered. To continue the ice 45', only twice a day. Medicine as before.

May 9th.—Is well in all respects, except a little cough in the morning without expectoration. Gets up stairs better than formerly, her attendant says—"she can run up and down first class now." Ceased to menstruate, having done so freely on the 5th inst. To continue the ice and medicine as last prescribed; also to take cod-liver oil, ʒj daily. (N.B. I now found that this patient has taken no cod-liver oil since she was last attacked with rheumatic fever, although, when my treatment of her was resumed, March 9th, I ordered it to be the same as prescribed December 26th.)

CASE IV.—Epilepsy, paralysis, muscular wasting, persistent vomiting, and partial incapacity of retaining the urine.—February 12th, 1866.—F. A—, æt. 47, sent to me from the country by the physician who usually attends him, suffers from epileptic attacks, which induce unconsciousness and cause the patient to fall, unless, as (in consequence of his other maladies) is generally the case, he is either sitting or lying down. They are accompanied with scarcely any convulsive movements. He also often becomes giddy: if at these times he can sit down, he does not swoon, otherwise he does. His wife thinks that the fits occur about once a week; the giddiness happens much more frequently. The patient suffers from headache, and has it at this moment. When asleep, often wakes up with nightmare. The sight of the left eye, which is all but closed, is so much impaired that he can only see objects very dimly. There is a general wasting of the muscles of the head and face, but chiefly on the left side, and especially of the left temporal, the orbicularis palpebrarum, and of the muscles of the nose. The tactile sensibility of the face is extremely obtuse; cannot feel two points until they are about three inches apart on each cheek. The patient has a sense of great weight and heaviness in his shoulders and arms, as well as of a dull heavy weight at the nape of the neck, making it difficult to support the head erect. Both of the upper extremities are to a great extent paralysed, cold and numb, and almost useless. The muscles of the neck, of the scapulæ, and of the whole of the upper extremities are extremely wasted; those of the chest are also wasted, but less so than those just mentioned. The patient complains of a sense of constriction, or rather of great pressure, over the chest, especially in the axillary region. Is much troubled with vomiting, occurring almost every morning before breakfast; says the vomited matter seems something like the yolk of an egg. The urine often dribbles away in the morning involuntarily, but is retained during the day. Lungs healthy. Keeps food on the stomach with extreme difficulty. Takes for breakfast an egg beaten up with rum, which he finds he has the best chance of retaining. He also takes small quantities of brandy at frequent intervals—often during the night as well as the day. Bowels regular. Lower extremities warm and strong; can walk a considerable distance, especially at night. Pulse 84.

The patient considers that he was really well about ten years ago. About that time he had a fall, and was so stunned as to be unable, during some minutes, to walk at all. Some time after this he had a second fall, striking the back of the head and causing giddiness. About seven years ago, when going up stairs, he was "taken with a shaking and loss of consciousness." He fell down, but soon recovered, and has had fits ever since. At the earliest period of his illness a slight squint inwards of the left eye came on; for this he was subjected to a course of mercury during six weeks; the sight of that eye then became impaired, the pupil of it becoming and remaining smaller than that of the right. Speedily afterwards he was attacked with vomiting, diarrhœa, and discharge of blood from the rectum, which, with periods of arrest, extended over about six years. A wet day was sure to induce a discharge. The bleeding ceased about three years ago; stopped, it is said, by hydropathy. The diarrhœa stopped about two years ago, without obvious cause; the vomiting, as already said, continues. About three years ago he had a fit, which lasted about ten minutes; quickly afterwards the fingers of the right hand became cold and numb, and the limb from that time grew gradually weaker, seemingly heavier and more insensible. Recently it has seemed to be somewhat better, but during the last six months the left arm and hand have become worse than the right. He says that while in a hydropathic establishment, about a year ago, he was so violently salivated, that *all* his upper teeth fell out in one day. (The physician who

sent him to me says he knows that the teeth came out as stated, but does not believe salivation was the cause of their loss.)

To apply ice along the whole spine 15' twice a day; and after the ice is removed, to apply vigorous friction along the upper half of the spine also during 15', and over the back of the neck, shoulders, and arms as much as possible. \mathcal{R} Ammonii Bromidii gr. v, Potassii Iodidi gr. j, to be taken morning and evening. \mathcal{R} Ferri et Quinæ Citratis gr. ij, Tincturæ Calumbæ \mathfrak{z} ss, to be taken daily before dinner.

February 26th.—The patient returned to the country immediately after I had seen him for the first time, and at this date his wife sent me a report, which I have unfortunately mislaid, but which induced me to prescribe as follows :—To apply ice in upper two cells only of spine-bag each morning, and along whole spine at night, 30'; to omit rubbing the spine, but to rub the other parts as ordered, and to continue the medicine as before.

March 10th.—He has escaped being sick, unless on three or four occasions, when he vomited bile. The involuntary discharge of urine in the mornings has ceased or nearly so. To lengthen the time of applying the ice, as ordered, 26th ult., to 45'; to continue the medicine as before, and to omit the rum which he has been in the habit of taking with an egg for breakfast each morning.

14th.—His wife writes, "The giddiness is not so frequent, neither is the swooning, and there is little or no headache. . . The sickness has been rather more frequent again," since taking cocoa instead of rum with an egg for breakfast. To apply ice before dinner as well as before breakfast in upper two cells of spine-bag, and in all three each night during 40'; to galvanize upper extremities once daily, and to take as follows :— \mathcal{R} Ferri et Quinæ Citratis gr. iv, Infus. Calumbæ \mathfrak{z} j, each morning. \mathcal{R} Ammonii Bromidii gr. v, Potassii Iodidi gr. ij, each night.

April 1st.—His wife writes, "The sickness, I am glad to say, is much less frequent, being confined to a little occasional sickness in the morning, but he has not vomited any food. The giddiness is not so bad, and he has not once swooned. He has no headache. He complains much of flatulency. I, however, fancy he is making flesh." Continue treatment as before.

12th.—"Has caught a very severe cold, and has continued ever since in a sort of fever, sometimes hot and occasionally cold. . . The cold and fever seem to affect the chest the most. He is hoarse, and has difficulty in getting up the spit. I attribute the cold to the galvanism after the ice at night, which, I think, keeps him too long exposed." To omit the ice from the thoracic spine; to apply it to the cervical spine 45' twice a day, and to apply it to the lower half of the spine whenever sickness supervenes. To leave off the brandy gradually, but as soon as possible.

23rd.—His wife writes, "Mr. — has had little or no sickness for the last ten days, and his appetite is better. The cold and hoarseness are gone. . . The brandy he has given up altogether during the day, and is gradually leaving it off, taking less at bedtime. He has been obliged to take it to get sleep, not from fancy at any time. The ice treatment seems to soothe him very much, and he could often sleep while the bag is on."

A few days ago, the physician who has the general care of this patient visited me and gave me the following report :—"Since the treatment began he has never had a fit, and now has no tendency to swoon or become giddy. The left eye has become much more open than it was before. The wasting of the upper part of the face on the left side is arrested. The sense of weight over the shoulders, and of constriction or pressure, especially in the axillary region, is lessened. The sensory and motor power of the right arm is much improved; sometimes now, forgetting himself, he offers the right hand to shake hands with. The vomiting was quite arrested for a considerable time,

but has recurred at intervals—never, however, during the time the ice is applied. The urine is retained better than formerly.”

In ‘The Lancet’ of February 11th, 1865, I published a remarkable case of “Cerebral Anæmia or Fainting-fits cured chiefly by means of Ice.” The following interesting report of a case corroborative of the doctrine then exemplified concerning the nature and treatment of this hitherto almost uncontrollable malady has been kindly supplied to me by Dr. Playfair, of King’s College.

CASE V.—Fainting-fits.—Mrs. C—, æt. 32, has been married nine years, and has had three children. During each pregnancy, she has suffered severely from attacks of syncope, which came on with great frequency, often six or seven times during a week. She seldom lost consciousness entirely, but used to remain from twenty minutes to an hour in a semi-unconscious condition. She never suffered from these attacks when not pregnant; and since the birth of the last child, now five years old, she has enjoyed comparatively good health. She came under treatment [at King’s College Hospital] on the 20th of November, 1865, and states that about two months ago the fainting-fits returned with greater severity than ever, and that they are brought on by the slightest excitement. The average is eight a week, but occasionally they are more numerous, and sometimes last more than an hour. She does not entirely lose consciousness, but is unable to speak or move. Hands and feet cold. Pupils widely dilated during the attacks. The latter symptom has excited the attention of her friends. Of late she has menstruated rather profusely, and suffered from bearing-down pains in back and round the loins.

On vaginal examination, she was found to have a fibrous growth about the size of a small orange behind the right of the uterus. There is a smaller outgrowth, the size of a walnut, in front of and immediately above the cervix. The cavity of the uterus is of the normal length.

She was ordered five grains of bromide of potassium in half an ounce of chloric ether mixture three times a day, which was continued for a fortnight without benefit, when the medicine was changed for a pill containing three grains of reduced iron and one grain of valerianate of zinc three times a day.

December 22nd.—The fits continue as bad as ever, but she thinks general health much improved. She was now ordered to apply an ice-bag from the nape of the neck to the lower part of the spine for twenty minutes night and morning.

January 1st, 1866.—Since she has used the ice, she has had only three fainting-fits, although she formerly never passed a day without one. The bearing-down pains are much diminished, but she has had more profuse menstruation than formerly. The discharge has come back twice within the month, in consequence of which the ice was not applied for some days.

15th.—No fit since last visit. Has applied the ice regularly for the last ten days, and finds the greatest comfort from it. Up to the present time (January) she has had no more attacks, and feels altogether much stronger and better.

CASE VI.—Laryngismus stridulus.—During the summer of 1865, I had occasion to make frequent professional visits to Brighton. While there, I was consulted by the mother of a child suffering from false croup. The spasmodic attacks were severe and frequent, and had continued several

months. The child looked worn and delicate, was very fretful, needing constant attention, and caused his mother to be very anxious about him. She told me that he had taken a great deal of medicine, but that nothing which had been prescribed seemed to do him any good. I prescribed the use of a ten-inch spinal ice-bag, which is about two inches and a half broad. The bag was applied to the whole spine or to a part only, and for different lengths of time, according to the changing state of the child. Unfortunately, I took no notes of the case, and, therefore, cannot record the weekly progress of it, and of the modifications in the use of the ice which I adopted. This, however, I can say with certainty: at one period, ice was applied along the whole spine during two hours three times a day, and was ordered to be applied additionally at any time when symptoms of an attack were observable. No medicine whatever was given.

From the time when this treatment was adopted, improvement began; the attacks were speedily arrested altogether, and the patient, gaining additional health and strength each succeeding week, was transformed from a thin, pale, excitable, and peevish little sufferer, into a strong, ruddy fellow, with the joyous expression characteristic of healthy children.

CASE VII.—*Congestive apoplexy with paralysis*.—December 3rd, 1865, 5 p.m. W. H.—, æt. about 65, became suddenly giddy and incapable of standing yesterday: shortly afterwards he vomited and was relieved, but his speech, which was previously perfect, had become much impaired. To-day, while at dinner, and “after having taken only one or two mouthfuls,” he suddenly lost the power of speech, and “his eyes became fixed and glassy.” Ice was shortly afterwards applied along the whole spine, when he was considerably recovered. I found him much better again; head cool, and speech, though greatly impaired, intelligible. [This patient had a very serious attack of apoplexy with paralysis of the right side exactly a year ago: he was then placed under my care, and completely recovered. Particulars of the case were published in the ‘Medical Times and Gazette,’ of May 6th, 1865.] I ordered ice to the lumbar region 45’ at 8 p.m., a saline mixture, and light food.

4th, 5.30 a.m.—After passing a good night, vomiting came on; consciousness and the mental faculties were greatly impaired, and the power of speech was almost entirely lost; he was quite unable to make himself understood. Ice was applied at 9 a.m.; it benefited him, and when I saw him, about 10 a.m., he was conscious, and his power of speech had improved; but his mind was dull and confused. The face and tongue were drawn to the left side; the power of both arms slightly impaired. Pulse 76, full, and fairly strong in the right wrist, extremely slight and feeble in the left. To apply ice 30’ every two hours in the lumbar region, and water-bag at 115° to cervico-dorsal region 10’ every two hours alternately with the ice. Continue saline mixture, and nourish with beef-tea.

6th.—Is greatly improved in all respects, except that he complains of pain in the left side; when lying on it, his breathing is difficult and painful. I can find no cause for this. To apply a mustard plaster over the seat of the pain, ice to lumbar region 30’ every four hours, water-bag at 115° to cervico-dorsal region only if head should become hot, and to continue the saline medicine every four hours.

7th.—Head clear; speech fairly recovered; pulse in left wrist much increased in strength and fulness. To apply ice along the lower two thirds of the spine 30’, and to continue the saline mixture three times a day.

21st.—Has completely regained his former health. His mind is clear, his speech quite distinct and normal, his face symmetrical, and his pulse in the

left wrist as strong as that in the right. To apply the ice but once daily, viz., each evening. No medicine.

26th.—Continues well in all respects; goes out, and walks considerable distances alone. Ice left off at patient's request.

I never saw this patient again. His wife told me that, in her opinion, his health had become better than it had ever been during the two previous years; but very early in the morning of January 7th, 1866, he had another sudden attack, and died within a few hours. Had heat been at once applied to the upper third of the spine and cold to the lower third simultaneously, it is quite possible he might again have been saved.

CASE VIII.—*Hemiplegia, with persistent headache; impairment of intelligence and vision; obstinate constipation; and deficient expulsive power of the bladder.*—H. D. J.—, suffering from hemiplegia, consulted me, August 12th, 1863. He can lift the right elbow nearly as high as the shoulder, when the arm is flexed; but when extended, only as high as the mamma. The supraspinatus muscle of the right side is considerably wasted. Can flex the forearm vigorously, but can extend it only imperfectly and feebly. Can flex the fingers and thumb closely, but not powerfully; cannot extend the fingers beyond a right angle with the palm; cannot extend the thumb. Cannot stand on the right leg without support; it is not wasted. Cannot extend the toes except very slightly; can flex them better, but much less than he can the toes of the left foot. The right foot and leg, as high as the knee inclusive, are habitually cold; so cold that even now he has a fire every night to warm them before going to bed. Drags his left foot, and wears the toe of his shoe out in consequence.

Has continuous pain on the right side of the head round the ear, sometimes extending to the back and front of the same side. Has constant singing in the right ear. Has paralysis of the sixth nerve of the left side. Has a little pain in the left eye; cannot read test-type "12" with it; with the right eye can read test-type "3" with difficulty. Tongue deviates strongly to the right side; tactile power of tongue and of cheeks on each side the same. In the palm of the hand, feels two points six lines apart on right side, four on left. Intelligence considerably impaired. Pulse 120, the same strength on both sides. Bowels so constipated as to be confined for a week together if no medicine be taken, the stools being very hard. Even with several strong doses of purgative medicine in succession, very often no action of the bowels is effected. The expulsive power of the bladder is "greatly impaired." He sometimes passes twenty-four hours without making water. The patient is generally very impatient and irritable.

After the treatment, consisting chiefly of ice to the spinal region, varied from time to time according to the requirements of the case, had continued until September 24th, the following was the condition of the patient:

He can now raise his right arm vertically above his head; can extend his forearm vigorously, and all the fingers and the thumb completely. Can balance himself on the right leg without support. Can extend and flex the toes of the right foot very considerably, much more than formerly. The right leg decidedly warmer than before using the ice. In walking he can now put his left foot flat, there being no dragging of it as formerly. The pain of the right side of the head and the singing of the right ear, though not quite gone, are markedly lessened. The pain in the left eye is still felt at times, but is also much lessened. The paralysis of the sixth nerve of this eye continues about the same. Can now read test-type " $1\frac{1}{2}$ " with the right eye, and test-type " $8\frac{1}{2}$ " with the left. Feels two points at five lines apart in each palm. Intelligence very greatly improved. The bowels are now easily acted on by a slight dose of aperient medicine, and are thus open at least

every other day. The expulsive power of the bladder is much greater than before treatment; in fact, quite normal. Urine is now voided about three times in the twenty-four hours.

CASE IX.—*Paralysis of the upper and lower extremities, with rigidity.*—P. A.—, a boy, æt. 2 years and 4 months, of light complexion, and of peculiarly susceptible and excitable nervous temperament, was brought to me, April 10th, 1866, suffering from tetanoid paralysis of the upper and lower extremities. During about a month previously he had been observed to walk feebly, the weakness being, apparently, as his nurse said, in the knees. His feet were wider apart than formerly, giving him the appearance of straddling during progression; but his knees were not proportionately separated, hence the seeming weakness in them, which steadily increased. Simultaneously the child seemed to become generally and rapidly stout; so rapidly, indeed, that the nurse felt concerned in observing this change, although she had no idea that it was a morbid one. She particularly noted that not only were the limbs increased in size, but that the child had acquired a "double chin." When he was brought to me, his legs were extended and rigid, the feet being also firmly fixed, as in *talipes equinus*. The arms were also stiff, but less rigid than the legs; the thumbs were forcibly bent within the palms of the hands, and the fingers were drawn over them and fixed in a state of semi-flexion. All four limbs were swollen; the legs the most so, the dorsal parts of the hands and feet most of all: indeed, the dorsum of each foot was so swollen as to be tense and glistening. There were also slight ecchymoses here and there in those parts. The temperature of the limbs seemed, judging by means of the hand only, to be abnormally high. The sensibility was extremely heightened: to touch the hands or feet caused the child at once to scream; in fact, so fearful was he of the pain thus produced, that he screamed if he saw his feet approached.

During some weeks previous to the date when he was first brought to me, he had suffered considerably from his teeth; during the two nights previous to that date he had screamed the greater part of the time, evidently from great pain, and when lying half asleep rubbed his jaws on both sides vehemently with the backs of his hands. He has also suffered for several days from slight diarrhoea. He has on former occasions exhibited spinal irritation associated with dentition—irritation which expressed itself in the form of diarrhoea, and which had been speedily and completely allayed by the use of the spinal ice-bag.

I ordered (April 10th), and indeed applied on the first occasion, ice along the whole spine and across the occiput, extending from ear to ear. The ice was applied by means of two ten-inch spinal ice-bags, one of them being disposed along the spine, the other forming an ice-pillow. The bags were applied until the ice had melted, and were ordered to be refilled with ice and reapplied in the same manner four times a day. I also requested that the child should have a warm bath each night.

April 12th.—The child has had two good nights; has been greatly soothed, and is generally calmer and better. The lower extremities, however, are still extended and rigid, and the thumbs are still bent within the palms of the hands. The fingers have become more supple, and both the upper and lower extremities may now be freely handled without causing pain. The swelling is not yet obviously lessened, except that the dorsum of each foot is less tense and glistening. The diarrhoea has ceased. To omit the ice-pillow from the occiput; to continue the ice-bag along the spine as before, three times a day.

April 14th.—The child has greatly improved in all respects: he has continued to sleep well; the bowels have acted regularly since the beginning of

treatment; he looks more natural—less puffy and swollen generally; he can now bend his legs easily, and can not only use his fingers with facility, but his thumbs also. The anterior tibio-fibular group of muscles are, however, still greatly overbalanced by their antagonists, and hence the *talipes equinus* persists. To continue treatment as before.

18th.—The child is now creeping freely along the floor; the general swelling has so much subsided that he looks considerably thinner, and the expression of his face is proportionately improved. Has continued to sleep well; bowels regular. He can bear the fore part of the soles of the feet to be freely pressed upon without suffering pain; and the feet themselves, by means of gentle pressure, can be made to form nearly right angles with the legs. I find the warm bath at night has not been used since the 14th instant. The ice-bag to be continued as before.

21st.—The child can now stand upright, holding himself by a chair, and continues in all respects improving.

25th.—He can walk the length of the room, and is in such good spirits as to indulge me by the performance of a small dance. Now that he walks, it is obvious that the left leg has been much more seriously implicated than the right; for, while using the right foot quite naturally, he drags the left one, the fore part of which is turned out considerably.

28th.—Had a restless night last night, due, I believe, to the sudden and oppressive heat of the last twenty-four hours. The left leg has improved in strength; the dragging, if he walks slowly, is less perceptible than at the previous date. To apply ice along the upper two thirds of the spine only until the ice melts, morning and afternoon, and along the whole spine at night.

May 2nd.—Walks with perfect ease; there is no dragging of the left foot, the fore part of which now diverges so slightly as to be scarcely perceptible. Bowels regular, but faces of very light colour. *R. Hydrargyri c. Cretâ gr. iss, Pulv. Rhei c. gr. v, hac nocte.* Continue the ice as before.

5th.—The nurse says she could not get the child to take the powder. He looks perfectly healthy, and now runs rapidly across the room; the toes of the left foot still, however, turn a little more outwards than those of the right. Treatment as before.

CASE X.—Temporary and partial imbecility, partial blindness, and paralysis of the lower extremities.—H. R.—, a boy, æt. 2 years and 11 months, was brought to me, January 2nd, 1866, on account of partial blindness, staggering, and general impairment of both his mental and bodily health. He could not see objects distinctly; was unable to see or pick up coins if thrown on the floor before him. The eyes seemed as if almost fixed in the orbits, and the pupils were remarkably immobile. He walked with difficulty, and staggered as he went. He took scarcely any notice of objects around him or of words addressed to him, and had become dull and apathetic. This child suffered from violent and prolonged convulsions, with congestion of the brain, when five months old. He was at that time treated vigorously by means of calomel, and blisters to the back of the head, without affording any relief; and the case was given up as hopeless by the physician who attended him, and whose prognosis was of the gravest kind. I was then called in, and treated the child chiefly by means of ice. His recovery was complete, and he continued in excellent, indeed robust health, until the end of last year.*

* The particulars of this case, as it occurred in 1863, were published in the Appendix to my pamphlet entitled 'Functional Diseases of Women: Cases illustrative of a New Method of Treating them, through the agency of the Nervous System, by means of Cold and Heat.' London: Trübner and Co., 1863.

When last consulted concerning him, I prescribed ice in each cell of the spinal ice-bag, care being taken that the cold should not come in contact with the occiput, and that it should not extend lower than the third or fourth lumbar vertebra; also a powder consisting of Hydrargyri cum Cretâ gr. ij, Pulveris Rhei compositæ gr. v, to be taken every other night, or less frequently if the bowels should become freely open, and a saline mixture, as follows:—℞ Liquoris Ammoniacæ Acetatis ℥iv, Potassii Iodidi gr. xvj, Potassæ Bicarbonatis gr. xxx, Syrupi Aurantii ℥iv, Aquæ ℥iiss. M. ft. mist., cujus capiat ℥ij ter die.

January 18th.—Much difficulty has been experienced in applying the ice, as the child screamed violently when any attempt was made to place it along the spine. It has therefore been applied only once in the twenty-four hours, namely, at night, when he was asleep. A powder, as prescribed, has been taken about every third night, and the bowels have been opened never less than twice a day. His eyes look much more natural, and, as his mother says, he moves them about now. He distinguishes objects better, and is much more lively and intelligent, than when I last saw him. To continue the medicines as before, and to apply ice along the lower half of the spine thirty minutes instead of fifteen each night.

24th.—Intelligence and visual power still better, but the paralysis of the lower extremities so much increased that he has become unable to walk at all, and during the last few days has scarcely put his feet to the ground. To make a jacket, with a linen pouch on the inner side of the back of it, corresponding to the length of the spine; and having filled each cell of the spinal ice-bag, and placed it within the pouch, to put on the jacket thus prepared three times a day during thirty minutes. To give the child a warm bath at 100° Fahr. each night. To give five grains compound scammony powder occasionally if the bowels should be constipated, and to continue the mixture as before.

February 1st.—The ice-bag jacket has not only been well borne, but its use has been looked forward to with pleasure and welcomed by the child. He can now walk a considerable distance—the length of two rooms, for instance—if led by the hand, and is generally improved and very lively. The pupils move freely under the influence of light, but there is slight paralysis of the left external rectus. The treatment last ordered to be continued.

2nd.—Has been heavy and dull since yesterday, and sick this morning, but is now much the same as before. To continue the ice during half an hour, morning and noon, along the whole spine, and during three quarters of an hour along the lower half of it each night. Treatment in other respects as before.

10th.—Is much better in all respects; can walk without being led, and very easily when led by the hand. Vision believed to be quite natural; the squinting has ceased; sleeps well, and is in capital spirits. Appetite good, bowels open daily without the aid of medicine. Two days ago, however, when irritated, he suddenly stretched himself out, in, as his mother thought, "a kind of general spasm;" he has also a little cough, and is slightly hoarse. To omit ice in the middle of the day; to continue the warm bath and the mixture as before.

24th.—Vision continues quite restored. Head quite well; walks freely alone, but not quite steadily. Has a slight eruption on the face, and flushes frequently, especially in the afternoon. To apply ice along the lower half of the spine three quarters of an hour each morning as well as at night.

March 7th.—The vision continues perfect, and the child is thoroughly lively and intelligent; but he walks with hesitation, drags the left foot slightly, and seemingly raises the leg somewhat spasmodically. To omit the mixture; to use aperient powder only when necessary; and to apply ice along

the upper half of the spine each morning and afternoon, and along the whole spine each night, during thirty minutes.

28th.—I have not seen the child again, but at this date I received from his mother a letter reporting that it had improved steadily and satisfactorily since I last saw it. The only unsatisfactory symptom which still remained was *the dribbling*, which was almost as bad as ever.

I then requested that the treatment already mentioned should be still persisted in, and have since learnt that he is quite well in all respects.

CASE XI.—*Paralysis of the muscles of the tongue and throat*.—September 13th, 1863.—Consulted by Mrs. —, who, about four years ago, lost the power of her right hand for a time, but recovered it. A year later she had an attack of paralysis of the right arm, lasting only for a few days. The face was drawn to the right, and the speech became "thick." She has never walked so strongly since this attack as she did before it. She had a third attack about thirteen months ago, when, having gone to bed well, she rose in the morning, and went to call her daughter, but found herself unable to speak. The arm was not affected at all this time. Both legs are now very weak, the right one being much the worst.

The tongue is still paralysed, but its sensibility is normal. She can now protrude it slightly, and move it from side to side, but cannot speak at all. Formerly the tongue was stiff, and could not be protruded.

During the last two months she has become able to swallow fluids with difficulty, only a teaspoonful at a time. Has all her food minced, being unable to chew it, because she cannot guide it in her mouth. Uvula straight. Pupils equal, and sight fairly good. Forehead, face, submaxillary region, decidedly cool; upper extremities habitually cold. Sleeps well; appetite good, bowels regular. Goes out daily to walk, but feels a great stiffness in the limbs, particularly in the right leg and arm. The patient writes on a slate—"My nerves are greatly shaken; the most trifling thing makes me laugh or cry without any cause. I cannot account for this attack in any way. I have tried blisters, strychnine, galvanism, and homœopathy, without any effect. I have no headache nor pain of any kind, but often feel as if a band were bound round my head and throat (more round the throat than the head); and going up or down a single step, I fancy I must fall, though I know it is only a nervous feeling." I requested her to apply ice, until it melts, along the upper half of the spine, twice a day.

September 20th.—The patient looks better; the hands have been always warm since the treatment began, becoming so in three minutes after the use of the ice. Her expression is improved; looks healthier, stronger. Pulse 92; tongue clean, bowels regular. \mathcal{R} Ammonii Bromidii gr. v, Potassii Iodidi gr. iiss, ter die.

27th.—Feels very well; arms, but not hands, warm; bowels regular. Face often flushes while the ice is on. Can eat better, and can say "Helen" and "No." To make the hands warm by putting them in hot water, by friction, and by warm gloves. To continue the medicine already prescribed, once daily, and to take of Ferri Carbonatis cum Saccharo gr. x, bis die.

October 3rd.—Much the same, but has a little more power in the tongue. Can say "Nothing." Bowels regular. Pulse 104. Continue the ice and the pills, and keep a roll of cotton wool beneath the lower jaw.

11th.—Is generally better. Can say "Yes" and "Fire" and all the letters of the alphabet except "w" and "y." The wool beneath the jaw has much increased the temperature there. Is always warm, *except just after dinner*; she has not the ice on then. To continue the pills, to put the ice-bag next the skin, and to suck jujubes in order to exercise the tongue.

17th.—Can now say "Bacon, finger, apple, paper, Mary, box." Hands

warm, feet also. Pulse 100. Bowels regular. Tongue deviates to the right. Swallowing improved: takes a wine-glassful of porter daily. \mathcal{R} Potassii Iodidi gr. iij, bis die. Continue the ice and the jujubes, and make continual efforts to speak.

I never saw this patient again.

CASE XII.—*Cerebral disorder, involving semi-stupor, double vision, and headache, and accompanied with frequent and sudden spasms of respiratory muscles.*—July 11th, 1863, D. A—, æt. 26, male, complains that he is attacked two or three times weekly, and for hours together, with pain and a sense of pressure in the head, causing a state of half stupor, and rendering him unable either to understand clearly what is said to him, or clearly to express himself. Has acute headache at the vertex, every day. Often sees double. Is much troubled with sudden and frequent spasms of the respiratory muscles. Has emissio seminis at least weekly, although he has sexual intercourse frequently. Feels great general languor, and suffers from an extreme amount of flatus after meals. To apply ice along the lower half of the dorsal and the whole of the lumbar vertebræ during two hours twice a day. \mathcal{R} Ammonii Bromidii, Potassii Bromidii, \mathfrak{aa} gr. v, ter die.

25th.—The feeling of stupor is lessened; the sight is better; but the pain at the top of the head, the spasms, and the indigestion continue. The ice was only used until the 20th instant, and until that time emissio seminis had not recurred. To resume the ice. Medicine as before.

May, 1866.—This patient continued under treatment, with frequent intervals, when it was partially or wholly omitted, during the latter half of 1863, the ice being ultimately applied along the whole spine; and at the end of the year, when his health was completely restored, he said he had not felt so well for years.

CASE XIII.—*Cerebral disorder, involving sleeplessness, great depression with fear of death, and accompanied with inveterate emissio seminis.*—August 18th, 1863.—D. E—, æt. 23, complains of extreme depression of spirits, which has troubled him more or less during the last six years. Latterly, has been haunted persistently by a fear of death—a fear much intensified at night. This trouble has been extreme during the last few weeks. During the same period has been much troubled by wakefulness at night. Has emissio seminis almost nightly, often when asleep. Does not know what headache is; sight good; tongue coated at the back; bowels habitually rather constipated; urine often turbid; extremities generally cold. Pulse 92. To wash all over every morning; to apply ice to the lower half of the spine until it melts, and the water becomes warm, three times a day. \mathcal{R} Hydrargyri Chloridi gr. j; Pil. Rhei co., Pil. Colocynthis co., Ext. Hyoscyami, \mathfrak{aa} gr. iij. M. ft. pilulæ duæ: one, or both if needful, to be taken at bedtime when the bowels are confined. \mathcal{R} Infusi Calumbæ \mathfrak{z} j, Potassii Bromidii gr. v, Potassæ Bicarbonatis gr. viij, twice a day.

29th.—Is much better; general feeling of mental depression is much lessened. Has no longer any fear of death. Sleeps a great deal better. Emissio seminis has not occurred half so often as formerly; extremities "very warm." Pulse 100. Continue the ice as before. \mathcal{R} Infusi Calumbæ \mathfrak{z} j, Ammonii Bromidii gr. v, Potassii Bromidii gr. iij, twice a day.

May, 1866.—This patient, whom I have seen recently, continued under treatment a short time longer during 1863; soon became quite well, and has continued so.

CASE XIV.—*Neuralgia of twenty years' duration, accompanied with nausea vomiting, and obstinate constipation, cured by cold applied along the spine.*—

January 14th, 1865.—Miss E— complains of extreme pain on the right side of the lower dorsal and upper lumbar vertebra, extending laterally on the same side of the back, and thence forwards to the right hypogastric region. The pain continues every day and every night, and has lasted about twenty years. Sometimes, however, she has three or four hours' release from suffering. The pain is so distressing and wearing that she is greatly weakened, especially by want of sleep, and disqualified from undertaking any regular occupation. During the last three months she has not had a night's rest; has trusted to narcotics for such sleep as she has had; has taken "a great deal of opium and morphia, and latterly large quantities of brandy," which, she adds, "is the only means of relief she has." She suffers nearly every morning, and frequently throughout the day, from nausea, and occasionally vomits "water." The morning part of this trouble usually lasts about one hour. Has a slight eruption over the face, which has continued for two years. Hands and feet habitually cold, even in summer. Pulse 94. Menses recur every three weeks, and last about three days each time; bladder healthy; urine sometimes very dark, sometimes very pale and copious. Bowels not relieved above twice a week without the aid of medicine. She has been attended by at least five regular practitioners, including an eminent London physician, who treated her during eight months; has also tried homœopathy and mesmerism; has taken considerable doses of quinine; has bathed in salt water; and has been in the habit, during a long period, of wearing a wet bandage round the abdomen.

I ordered her to leave off brandy, opium, and morphia, at once and entirely; to apply the two lower cells of the spinal ice-bag during thirty minutes before breakfast and just before going to bed; and to take the following medicines: Compound tincture of quina, two drachms at noon each day; iodide of potassium, one grain; bromide of potassium and bromide of ammonium, of each five grains, to one ounce of water, morning and evening.

February 4th.—In consequence of being from home, she did not begin the treatment as directed until ten days ago. The pain "is very much lessened," but she has not yet been a whole day without it. The nausea and vomiting are also lessened. In answer to my question, Have you slept any better? she says, "Very much better indeed. The freedom from pain has been a great comfort. During the last few nights I have slept throughout the night without being disturbed at all; an experience quite new to me. I feel quite a new creature, and can walk about the house now in a way I could not before." Her feet have become warmer, and her appetite much better. The face is more marked by the eruption, perhaps, than when she was last here; but the intervening parts are paler and healthier. She has menstruated since her last visit, as usual. Bowels still constipated; tongue clean, but dry. Sometimes in the evening, just when taking off the ice-bag, she has felt "a stabbing pain at the heart;" but this she has felt before. Finds no discomfort from the use of the ice; on the contrary, she feels the cold pleasant. I ordered the ice to be now applied during forty-five minutes each time; the medicines to be continued as before, and an aperient pill to be taken occasionally when needful.

17th.—The pain has increased somewhat again; it comes on daily exactly at the same hour (half-past six p.m.), and lasts about two hours. "It is not nearly so bad as it was," however; and her "nights are so very much better." She sleeps "throughout the night generally; occasionally waking once." Has had neither vomiting nor nausea during the last two days. Her general health, appetite, and spirits have improved; and the stabbing pain at the heart has ceased. Pulse 96. Tongue clean, but dry. Bowels open every other day, without the aid of aperient medicine. Became "unwell" during one day, a fortnight only after her previous period: such a thing has never

happened to her before. To apply each cell of the spinal ice-bag during thirty minutes morning and evening, flannel being put between the middle cell and back, if needful. To take compound tincture of quina, one drachm daily; and solution of arsenite of potash, four minims twice a day.

March 3rd.—While using the ice-bag as last ordered, her nose bled, and she had such fulness and pain of the head that she felt as if she should go out of her mind. After three days of this experience she reverted to my former prescription in respect to the use of the ice-bag. The head then became much better, but she still has slight headache and sense of fulness.

The neuralgic pain is so wonderfully better that she is filled with astonishment. She has passed an entire day without pain—an experience she has not had before for twenty years. When the pain has recurred, it has been very slight, and has not lasted more than half an hour a day. Sleeps always throughout the night now. "The sickness is nearly all gone." Feet very much warmer; in fact, she no longer suffers from cold feet. Facial eruption much the same. Bowels much more regular; open, each of the last three days without the aid of medicine. Ordered the wet bandage to be left off; ice to be applied morning and night in the lower and in the lower half of the middle cell; and to take no medicine.

April 1st.—Has now been many days absolutely free of the neuralgic pain; as she remarks, "it may be said to be gone." The nausea and vomiting have ceased. Bowels very regular indeed; "open every day—quite a new feature." The facial eruption has lessened, and the headache has gradually subsided. Pulse 98. The ice-bag was left off a few days ago; since then the feet have ceased to be as warm as before. Appetite and digestion again somewhat feeble. Is more wakeful at night, but without pain. To reapply ice to the lumbar and lower dorsal region once daily before rising; to apply the spinal water-bag, medium size, temp. 120°, to cervical and upper dorsal region each night after getting into bed, and to take infusion of calumba, one ounce, bicarbonate of potash and bromide of ammonium, of each five grains, twice a day.

I have not seen the patient since, but have heard more than once from her cousin that she continues well.

CASE XV.—*Neuralgia of the head and face cured by the application of heat on each side of the spine.*—March 8th, 1865.—I was requested to see Mr. T. H—, a gentleman about 35 years old, who was suffering from neuralgia, chiefly of the right side of the head and face. I found him, at 3 p.m., in bed. He was in considerable pain, which had been continuous from the previous day, and which had wholly deprived him of sleep. He also complained of headache. The scalp was markedly tender, especially on the right side; the face also; and both were somewhat swollen. During this morning the left side had become invaded. The patient also complained of suffering from cold in the head—a sort of influenza, with considerable aching of both jaws. The head was rather hot; the forehead was slightly moist; the face flushed; the pulse strong and full, 92; the tongue was thinly coated with whitish fur. The malady began about a fortnight ago. During its continuance he has been treated by two physicians. Various medicines were prescribed, amongst them aperients, iodide of potassium, colchicum, cinchona bark, quinine, and iron. I applied a spinal water-bag, medium size, temperature 130° Fahr., to the cervico-dorsal region, and ordered it to be applied continuously so long as the pain should last. I then left him to write a prescription, promising to see him again before I should leave the house. I ordered the following medicine:—Dilute sulphuric acid ten minims, disulphate of quina two grains, four times a day. Also liquor of the arsenite of potash, seven minims, twice a day, and a morphia draught to

be taken if the spinal water-bag should not induce sleep. Within half an hour from the time I applied the bag, I returned to him and found him asleep. The pulse had already fallen to 88.

9th, 4 p.m.—I found the patient up, writing a letter. Has had no pain since I saw him yesterday, except little threatenings, which were immediately subdued by the reapplication of the spinal water-bag. Indeed, it was applied pretty continuously during the whole twenty-four hours. The tenderness and swelling of the scalp and face have subsided; the headache has ceased; and the countenance, no longer flushed, has assumed its natural expression. The patient has slept all night, being only disturbed by the refilling of the bag. He says: "Once I felt sure a new attack was coming on, and I began to fear another bad night; the bag was refilled and reapplied, and soon I forgot all about my fears by dozing off to sleep. The bag is worth its weight in gold." The tongue is covered with a thick white fur; no appetite; bowels open twice; pulse now (after dinner) 84; this morning it varied from 70 to 75. To apply the water-bag when going to bed as before; on other occasions only if the pain should recur. To apply the two lower cells of the spinal ice-bag during thirty minutes three times a day; to avoid wine; and to omit one of the doses of quinine, taking only three in the day.

11th.—Has continued free from neuralgic pain. Has only used the water-bag once—viz., on the night of the 9th, when going to bed. It sent him to sleep immediately; but in about half an hour he awoke with headache, and found his head very cold. His hands, having been beneath the bedclothes, were warm. He removed the bag, and applied one hand to his forehead. The headache speedily ceased. He finds the spinal ice-bag agreeable, and wishes to extend the time of its application. Pulse 72; tongue cleaner; bowels open, but insufficiently so; urine turbid. To omit the spinal water-bag altogether, unless the neuralgia should occur; also the medicines already prescribed. To apply ice in each cell of the ice-bag for forty-five minutes three times a day; to drink water freely; to take an aperient pill occasionally, and one grain and a half of disulphate of quina with fifteen minims of dilute nitro-hydrochloric acid before breakfast and dinner.

April 8th.—Has had no return of neuralgia, and attends to his business daily; but, though fairly well, he is not in robust health, being troubled with a little flatulence and indigestion, chiefly due, I believe, to having his sleep frequently broken at night, in consequence of his wife's recent illness. I therefore gladly concurred in their project of going to the sea-side for a time.

PART II.—REVIEWS.

A Manual for the Classification, Training, and Education of the Feeble-minded, Imbecile, and Idiotic. By P. MARTIN DUNCAN, M.B. Lond., F.G.S., Honorary Consulting Surgeon to the Eastern Counties Asylum for Idiots and Imbeciles; and WILLIAM MILLARD, Superintendent of the Eastern Counties Asylum. Pp. 191. London, 1866.

IN opening and perusing this little manual our mind reverts instinctively to the autumn of a few years since, when, after wending our way through the Bernese Oberland, we reached the Anglicised village of Interlaken, and saw before us the Morgenberg and Abendberg in all their beauty. The Abendberg was to us especially interesting, for we were aware that on its heights was a settlement which had been extolled by Englishmen, where, it was said, a benevolent physician rich in faith and with the noblest purpose was successfully attempting to elevate the feeble-minded of his country, and effecting results which would be an honour to his name and race. To visit this far-famed colony was one of the great objects of our desire, and to draw inspiration from its honoured chief was the crowning-point of our hope. We had read all that had been written of the man and of his work, and we set out on the toilsome journey of the Abendberg, leaving at our feet the glorious lake of Brienz, with all the feelings with which a devotee enters on a pilgrimage to the holy shrine. We gathered relics from that famous mountain, and our garden still contains the ferns and seedling fir-trees which we, in our innocence, felt would remind us of a spot where the most unselfish influences were supposed to be at work in freeing mind from the trammels of a feeble physical development. The spell which had attracted us up that pleasant but toilsome journey was destined to be broken. The shrine was a dirty chalêt, the genius of the place was being lionised in European drawing-rooms, while hirelings with but little interest and far less tact were trying to maintain a delusion which, if it ever had a basis of truth, that basis had long since departed.

Our disappointment with this manual, although not of the same kind as that which a close inspection of the Abendberg produced, is,

nevertheless, one which we cannot conceal from ourselves, and which we think will be participated in by every reader who opens its pages for instruction. There is throughout an entire absence of any great general principles, while there is a superfluity of sentimentalism and of trivial detail. Ill conceived and not well written, the subject matter presents a striking contrast to the style and binding with which the Messrs. Longman have issued it from the press. The absence of principle is one of the main causes, in our opinion, of our authors' failure; and the division of labour has not tended to the production of a coherent and well-digested book. We can trace in it some of the matter from the pen of one of the authors which has appeared in the pages of this Journal, and this constitutes the most valuable part of a composition the bulk of which is of a trivial nature.

The book opens with some general remarks on Idiocy, its symptoms and characteristics—*general*, we may truly say, for the way in which statements are made and contradicted is somewhat amusing. We may instance a few examples.

"The condition known as that of the idiot, imbecile, and feeble-minded, implies inseparable mental and bodily deficiencies." "It may be stated as a general rule that the greater the bodily defect the greater the idiocy." "It is sufficient to assert that many undoubted idiots have well-shaped heads, handsome faces, and well-turned limbs; whilst many of the feeble-minded who are higher in the scale of intelligence have ill-shaped heads, repulsive faces, and great deformity."

Altogether the description of the characteristics of idiocy is so vague and indefinite that we are at a loss to imagine to whom it can be of any "practical value." To be told that sense of feeling *may be* universally dull or universally great; that the skin *may be* discoloured; that the sense of smell *may not* exist; that the power of moving the eyes *may be* deficient; that the eyelids *may be* imperfect; that the external ear *may be* large and malformed; that the saliva *may be* greatly increased in quantity; that the heart's action *may be* weak; that the appetite *may be* voracious; that there *may be* general inertness of the body; that there *may be* many kinds of to-and-fro movements of the body, hands, &c., *may be* true, but we suppose that the authors might with equal propriety, and, as far as we can see, utility, have used *may not be* to their numberless assertions.

There are doubtless numerous deviations, both physical and physiological, in the subjects of which this manual treats, and it would have been interesting had there been any collection of facts on which opinions might have been safely based. We observe that our authors speak on some subjects with a little more confidence, but, we fear, not with much exactitude; for example, they state that "blindness is not much more common in idiocy than amongst perfect individuals." This is quite contrary to our own observations,

which show that congenital cataract is far more frequent in this than in other conditions of life. Moreover, our own investigations have led us to the conclusion that struma is largely connected with idiocy, and that strumous ophthalmia with its destructive results is greatly in excess of what would be met with in an ordinary community. Our authors speak with equal confidence respecting the voice—"Whilst the modulation, clearness of pronunciation, and musical tone of perfect individual are not possible to idiots or feeble-minded." This curious sentence, which we have quoted entire, and which does not seem to have any sequence, is quite contrary to fact. We have met with several well-marked cases of idiocy in which modulation of voice, clearness of pronunciation, and musical tone have existed in no small degree.

The next subject treated of is that of classification, which we must dismiss in a very few words, as it is not easy to understand the principles on which it is based, and which appear to us to interfere with former systems of classification, without presenting anything new on which the prognosis or treatment may be satisfactorily based. The authors appear to us to wrest imbecility from its proper meaning, and to apply it to dementia and several other conditions, provided they are non-congenital. This chapter, however, contains pictures from nature in illustration of the scheme adopted, and which appear to us to be the most meritorious part of the book.

In the chapters on management and training of the different classes of Idiots, much of the trivial matter previously referred to is to be found.

"The child should have its own little crib or little bed with railed sides; the head and foot should be high enough to prevent tumbling out. With regard to cleanly habits, the best plan is to notice when the child usually wakes, and the nurse should be at the bedside watching. The moment there is the least sign of awakening, the nurse should quietly draw the child out of bed, and gently place it on the night-stool, &c., &c. The child should be well covered up during winter, and made comfortable and warm, and a little bread and warm milk may be given. In summer some drink should be given."

We are at a loss to understand the *rationale* of this advice, unless the authors have an idea that the process of displacement is necessary. We prefer the rule of the school rhymes—

"One thing each time, and that done well,
Is a very good rule, as many can tell."

"After meals the same routine must be followed, and any accident (?) must be removed, and great cleanliness observed. The children's clothes should be well aired after all is quiet."

Is quietness essential to the airing of clothes ?

"The children should go to bed at the accustomed hour . . . and should be sleepy before laid down."

If the child is not sleepy, what is to be done ?

"As months roll on, the effects of good nursing become evident; and if the children begin to walk and to show some disposition to rise in intelligence, the attention should be doubled. If no progress is made, the same persevering attention recommended above is to be continued. The evident impossibility of raising any case above its truly idiotic state is not to act as a sign to leave off the same sedulous care."

The attendants and nurses are told, "that they should never indulge in a struggle unless they are sure of success."

"Where the means permit of a nurse and teacher, they are, of course, under the responsible parent; but, unless all can work well together, the relation had better not interfere."

Does "relation" mean the "responsible parent," and who, although *responsible*, is not to interfere even although the nurse and teacher come into collision? If not, what does it mean? The same question might be asked at other pages of this part of the book.

Then follow some directions for furniture, some of which appear ridiculous from their obviousness, while others are to be avoided for their erroneousness—

"The size of the room (school-room) must depend on the number of teachable cases. Cupboards should be provided for the purpose of containing the articles required in the various rooms. They (the rooms) should not be overcrowded."

Superintendents of asylums who contemplate adding an idiot department will be interested to learn that—

"The dormitories might naturally range over the day-rooms, with two or three single bed-rooms over the school-room."

It is well that "nature" need not be frustrated; we, however, warn them against following the suggestions as to the bedding—

"A mattress well stuffed with wool for the cleanly cases and with bran or oat chaff for the dirty will suffice."

While they will join with us in lauding the valuable advice that—

"The bedding should be strong, but good in quality; that the bolster and pillow should be soft, and that plenty of blankets and mackintosh sheeting are required; that the wardrobes for the clothing should be conveniently placed over the bed-room; that bath-rooms and lavatories will be required

to be fitted up in the most convenient manner; that 'a laundry should be provided for the whole establishment, with drying-closets, patent mangle, ironing board, and all the usual requisites.'

Heads of families in which there is an afflicted one will be surprised to learn that "*any* pet animal should be in the sitting-room;" while they will, after they have acquired the meaning of "where one room only is to be had, or *not even that*," be thankful to be told that "care must be taken to preserve the case from fire, and to make everything as clean as is possible," and "all valuable breakables should be put out of the way."

In the matter of clothing there are suggestions of a parallel character. Thus, we are told that "a cold day at any time of the year necessitates extra clothing, and a cold night an extra blanket," that "comforters and thick gloves should be worn in winter," that "the girls bonnets should be neither too large nor too small," that "pulling up the trousers can be prevented by using straps under the boots," that "those who do not take care of their clothes should be told of it occasionally," that "good canvass blouses and pinafores are very useful," that "the night clothing and bedding for both sexes require to be like those of ordinary children," that "the ordinary morning washing should be remembered," that "it should be managed so as not to be made disagreeable to the young," and that "there is no necessity for allowing the soap to get into the eyes and mouth," that "combing and brushing the hair, as a rule, must be attended to by a nurse."

We forbear to quote from the chapters on the moral and religious training, as we could scarcely trust ourselves to characterise the tone of them.

As to the medical treatment the remarks are perfectly valueless to the unprofessional reader, who would scarcely be practically enlightened as to the use of phosphorus as a nervous stimulant, or would venture to use sulphate of zinc "after meals" to "assist the general routine of training," and to whom "plumbi acetas" and "iodide of potassium" would be scarcely ready remedies; while the professional reader, if he wades thus far, will be amused to be informed that "Tinct. Opii" may be administered internally when its services are required." There is, however, one scrap of pathology which our authors give which we should have been glad to have had substantiated by the number of autopsies in which it had been noted—

"There is a headache amongst growing idiots which appears to arise without any external cause, and which is common in those cases where an indurated cerebral substance, and a thick but crisp calvarium are found after death."

Regarded either as a manual for the "responsible parent" or for the professional man who desires to be informed as to the pathology,

diagnosis, or scientific treatment of idiocy, we cannot close the book without reiterating our feelings of disappointment that the bright red covers should enclose so little that is really good.

Lectures on Mental Diseases. By W. H. O. SANKEY, M.D. Lond., F.R.C.P., Lecturer on Mental Diseases, University College, London. Churchill and Sons, 1866. Pp. 281. (*The right of translation is reserved.*)

DR. SANKEY has published in a handsome volume the lectures he delivered to his class during the session of 1865. "They are published," he writes in the preface, "in the hope that they may prove acceptable to the profession, and under the conviction that some sort of obligation attaches to one who has enjoyed peculiar privileges for observing a disease. The author for about ten years had constantly under his care from six hundred to a thousand insane patients. And considering that the class of affections observed is excluded from general hospitals, and treated only in special establishments which usually are far removed from the medical schools and from which the profession is virtually excluded, the obligation becomes, perhaps, the more enhanced."

Great credit is, doubtless, due to the perseverance and industry which enabled Dr. Sankey to overcome the obstacles met with in introducing a course of lectures on mental disease at University College Hospital. The lectures before us are the course which he delivered during his first session (1865). Had they been published in one of the weeklies after the manner of London lecturers, we should gladly have admitted their claim to our special notice. We think it, however, a pity that Dr. Sankey should have chosen so permanent a form in which to embody his first efforts at teaching. Had he subjected his material to the revision which would have followed a second delivery of the lectures, they certainly would have been more worthy of publication. At present they are of very different and varying quality, and some of the latter lectures bear marks of haste and want of finish. Thus, nothing can be more meagre or faulty than Lecture XI, on "Medical Treatment." Lecture XII, on "Moral Treatment" is not much better. Lecture XIII, on "The Legal Relations of Insanity" is very poor. These chapters bear all the marks of slovenly haste. The matter is ill-arranged, the style rambling and disconnected. On the other hand, there are through-

out the lectures many valuable hints and observations, the result of Dr. Sankey's wide experience. Lectures VIII, IX, X, on "General Paresis" and on the "Pathology of Insanity" are valuable and original contributions to the study of mental disease.

Dr. Sankey's first lecture is devoted to the phenomena of mind and the method of their study. A more singular medley of philosophy, medicine and physiology, we never read. The following is really a fair sample:—

"We may draw at all events a comparison between the phenomena of the excito-motor system, and that which takes place in the production of a special sensation. For example, in vision, the rays of light from a distant object collected and intensified by our special organ, the eye, pass from without, from our environment to our central organ, brain or sensorium; and we see the distant object not there, not in our sensorium, but we refer it back to our environment; there is equally, then, an afferent influence, a central sensation or æsthesia, and an efferent act or reference to the environment; thus, the phenomena producing sensation can be compared with those producing motion. We may speak of an excito-sensatory effect as well as an excito-motory. There is this difference only, that since there is no special activity—no active motility in sensations, there is no nerve-communication back to an exterior motor organ connected with sensory impressions; the resulting effect is not an external action but an internal, a mental effect—a perception or sensation.

"Perceptions or sensations differ from sensori-motory resultants—the one precedes the other.

"I must here guard you against an error which my words may perhaps convey. In speaking of a centrum or central æsthesia,* all I wish to convey is this, that since there is evidently a current to and a current from a point, there must of necessity be an intervening point.

"But my chief object is to show that there is a parallel arrangement—a ternary series of phenomena in sensations as well as in movements. In the excito-motory system the result is a movement; in the excito-sensatory the result is a sensation.

"Now, connected with the excito-motory system, we have disordered movements, convulsions, choreal twitches, &c., and these are produced by centric and eccentric irritation. So we have in mental disease *disordered sensations*, and they are of both *centric* and *eccentric* origin.

"A disordered sensation is called an *illusion* or an *hallucination*."

Our limits hardly allow of our discussing here the theory which Dr. Sankey prominently brings forward, viz., that there are no different species of insanity, but that all the phenomena observed are the symptoms of one disease (insanity), which commences with a stage of depression and passes through those of delusion and excitement to mental torpor and decay. The theory is as good in its way as many of the classifications of insanity which in this Journal have recently been brought forward. With an extract from the conclud-

* "The word æsthesia is borrowed from Neumann, to whose treatise, 'Der Psychiatrie,' the reader is referred, and whose physiological introduction has much in common with the line of argument here maintained, though, perhaps, not sufficiently identical to be cited in corroboration."

ing lecture, in which Dr. Sankey gives a summary of these opinions, we conclude this notice :—

“To assist you I will now again enumerate the different forms of insanity which I have described. This may help you in making your diagnosis, and it will form a recapitulation of my whole course, and a general classification of mental diseases.

“In the first place, then, I consider that mental diseases in all the varied forms described in books consist of but a very few separate morbid species. I would admit at present two only, viz.—

- “1. Insanity.
- “2. General Paresis.

But mental symptoms occur also, as epiphenomena in certain cases of epilepsy, giving us—

- “3. Epileptic Mania.

“These are the diseases; but mind is imperfectly manifested also from—

- “1. Impaired development, as in idiocy.
- “2. Decay as in old age.

“This forms the sum of all we have to study.

“With respect to ordinary cases of insanity, the phenomena exhibited in primary attacks are the following chiefly—

- “Depression,
- “Morbid apprehensions,
- “Illusions,

Constituting an attack on Melancholia.

“It must be admitted that in a pathological point of view any degree of depression is a fault in the mental functions; but considered legally, the amount of depression must be excessive to justify interference with legal rights.

“The above phenomena may terminate, after a varying time of persistence, in the following ways :

- “1. In health.
- “2. In death.
- “3. In Mania.
- “4. In Chronic Insanity.

“When the Melancholia persists, the disease may be called after a time Chronic Melancholy.

“The melancholic apprehensions take various forms, as fears about fortune, safety here, or safety hereafter (*Religious Melancholy*), about their health (*Hypochondriacal Melancholia*). Prominent symptoms of these melancholic states have given occasion for names, as *Suicidal Melancholia*, *Wandering Melancholia* (*M. Errabunda*), *Melancholy with Stupor*, &c. There is no proof of these forms being specifically distinct.

“When the Melancholia terminates in Mania, the disease is called *Acute Mania* or *Chronic Mania*, according to its duration.

“*Acute Mania* has been named also from various accidents connected with it, as when it occurs in phthisical or puerperal conditions, or when its origin is supposed to be drink, &c.

“*Chronic Mania* exhibits various modes of course or progress. At times its course is a gradual and even decline towards imbecility. More rarely, it is a gradual progress toward sanity.

"In other cases its course is variable from time to time. The following are the chief variations, three in number :

1. "A condition of persistent aberration, with greater intensity of the symptoms at irregular intervals (Chronic Mania, Monomanie).

2. "Distant periods of maniacal violence followed by a period of nearly complete sanity of more or less lengthened duration. Cases of *Recurrent Mania* belong probably to this category. Among these cases are those in which the outbreaks are sudden, without much warning, and are at times acts of crime, as murder, suicide, rape, drink; in other cases merely noise, hilarity, or simple violence, &c.

"Evidence of the earliest symptoms in the primary attacks of these cases is still a desideratum. In the absence of which I will repeat, that all those cases which have come under my observation, and in which the history of the first attack could be obtained, exhibited a stage of melancholia in first attacks, though not in subsequent outbreaks.

3. "An alternation of maniacal with melancholic symptoms, or the alternation, may be, of melancholia, mania, and a lucid interval, constituting the *Folie à double forme* and *Folie circulaire* of the French authors.

"Lastly.—Any and all of these conditions may terminate in imbecility and dementia, and towards this goal all gradually tend as long as life continues. Even those with lucid intervals are enfeebled by each attack, and ultimately terminate in the same way."

We have not flinched from the unpleasant duty of finding fault where fault is due. A manual of mental disease, such as these lectures in their wide scope assume to be, is not to be written by any one in the hurried manner in which Dr. Sankey has put his materials together, and to say that he has now failed in his undertaking from want of care and of revisal is, we hope, only to point the way in which, in a future issue, he may succeed. He has here shown himself quite capable of so doing.

PART III.—QUARTERLY REPORT ON THE PROGRESS OF PSYCHOLOGICAL MEDICINE.

I.—*French Psychological Literature.*

By J. T. ARLIDGE, A.B. and M.B. Lond., M.R.C.P. Lond., &c.

Annales Médico-Psychologiques.—The original memoirs contained in the two volumes of this Journal for 1865 are as follows:—In the January number—‘Mental Pathology according to the German Somatic School,’ by Griesinger and Jules Falret; ‘On a New Lesion of the Brain in general Paralysis,’ by Regnard; ‘Observations on the Delirium Tremens at the commencement of Typhoid Fever,’ by Thore; ‘Medico-legal Report on a Man accused of Incendiarism,’ by Parchappe, Blanche, and Rousselin. In the following number for March—‘On Chorea in its Relations to Insanity,’ by Thore; ‘The Pathology of general Paralysis,’ by Sankey and Rousselin (continued in the July number); ‘Some considerations on Sloughs over the Sacrum, especially in Paralytics,’ by Geoffroy; ‘On Medico-legal Inquiries relative to Insanity,’ by Mittermaier and Dagonet; and on ‘Asylums for the Insane,’ by Dagonet. In the May number—‘A Medico-Psychological Study on the so-called Savage of the Var,’ on the ‘Hystero-demonopathic Epidemic of Morzine,’ by Kühn (continued in the July number); ‘Case of Triple Infanticide, in which the Culprit was Acquitted,’ by Teilleux; on ‘The Utility of Seclusion at the Outbreak of Insanity,’ by Rousselin. In the July number—‘On Pellagra in its Medico-legal Aspects,’ by Leon Sorbets; ‘A Medico-legal estimate of the actual Condition of the Insane in France,’ by Brierre de Boismont. In the September number—‘On the Passions—the Influence of the Moral upon the Physical Nature,’ by Tissot; ‘Medico-legal Report on a Parricide,’ by Voisin, Parchappe, and Rousselin; one on ‘a case of Infanticide,’ by Lafitte; one by Bonnet, ‘In Condemnation of Arbitrary Seclusion;’ and a fourth on ‘a Husband accused of Murderous Assault upon his Wife,’ by Daviers and Billod. In the November number—‘On the Effects of Insulation on the Insane’ (pellagra), by Brunet; ‘On Lunatic Asylums and the Laws relating to the Insane,’ by Dagonet; and ‘Medico-legal Reports on three individuals, one of them accused of Forgery,’ by Parchappe, Girard de Cailleux, and Rousselin, and by Legrand du Saulle.

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The other contents of these volumes, though subordinate in position to the original articles, are, most of them at least, replete with interest. Among them are included reports of English, German, Italian, and other French journals, which treat of psychiatry or of topics cognate with it; but a still larger space is allotted to the reports of the proceedings of the Medico-Psychological Society of Paris. This society, during the year 1865, was almost entirely occupied with a discussion on the various methods of providing for the insane; but one other subject was interpolated at one of its sittings, viz., on the danger of entrusting tools to lunatics engaged in various industrial pursuits. These and other matters of interest will be best considered after the analysis of such of the original memoirs as demand notice.

The paper on mental pathology, as represented by the somatic school of Germany, is simply a translation, by Jules Falret, of the able introductory discourse delivered by Griesinger, which appeared in the pages of this Journal in January, 1864. M. Jules Falret prefaces his translation by some remarks on the characteristics of the teachings of Griesinger as the most illustrious living representative of the somatic school, which attributes all the aberrations of the human mind to causes operating in and upon the encephalon, and ignores the occurrence of disorder of the spiritual part of man. J. Falret refers to Griesinger's work on mental diseases as the best treatise on the subject, and announces its forthcoming appearance in a French translation annotated by Baillarger. The introductory discourse now presented to the readers of the '*Annales Medico-Psychologiques*' is characterised by Falret as a sort of profession of faith on the part of Griesinger, setting forth not only the ideas of its author, but also the tendencies and aspirations of the German somatic school. On his own part he professes the conviction that the etiological method of classification of mental disorders is insufficient, and that it is necessary to carry out the same process as has been followed in the case of the natural history sciences, namely, to found a classification upon a grouping of physical and moral phenomena, co-ordinated and subordinated as they are seen in nature, and by this means to arrive at the cognizance of true morbid species, based on a collection of phenomena having a common character, and succeeding each other in a determinate order, and possible also of anticipation.

M. Regnard undertakes to demonstrate a novel lesion of the brain in general paralysis. He was led to look for it by an observation recorded by his teacher, M. Baillarger, in 1864, that in some cases of general paralysis of the insane there is an alteration of the white substance of the brain about the anterior lobes, consisting of a species of induration, marked by resistant, elastic eminences of a

yellowish colour, confined, moreover, to the white tissue immediately subjacent to the grey lamina. To discover how far this lesion prevailed in general paralysis was the object of M. Regnard's inquiry. Between January and December, 1864, there were fifty-one cases of the disease among M. Baillarger's patients at the Salpêtrière. Of these twelve died. In eight of them the peculiar lesion in question was clearly marked, in three others it was indistinct, and in the one remaining could not be discovered at all. In this single exceptional case the white substance was in a different condition, and in the three other cases, where the special lesion sought was indistinct, the white matter was in a state of softening; consequently it would appear that this lesion is so much the more distinct in proportion as the medullary matter retains its normal consistence.

A microscopic examination of the tissue involved in the lesion exhibits a proliferation of connective tissue with amyloid bodies, a congested state, and atheroma of the capillaries; in other words, the constituent elements of induration. The morbid change occurs in the superficial portion of the white substance of the anterior cerebral lobes, and appears to exist from the first period of the malady.

Dr. Thore's paper is occupied with the history of a case of delirium tremens, in connection with the onset of typhoid fever. The patient was a quarryman, of strong constitution, but addicted to intemperance. His malady came on with intense headache, a foul tongue, anorexia, and nausea, and on the third day there was delirium with tremor; hallucinations of sight and hearing, injection of eyes, and insomnia, but no fever, the pulse being only sixty, and the skin cool. Opiates gave no sleep. At the end of the week stupor acceded, with dry, harsh, cracked tongue, and purging, with typhoid spots, and ultimately hæmorrhage from the bowels, and death.

Dr. Thore reviews the history of this case in relation to the error, not unfrequently committed, of sending patients so attacked to asylums. The delay of the positive febrile symptoms for a week after the delirium has set in offers the explanation. To avoid the mistake, Dumesnil resorts to an examination of the urine, asserting that where the delirium is associated with fever albumen is discoverable; but where there is simple delirium this abnormal constituent is not present. The value of this diagnostic test deserves further examination, and requires confirmation.

The Medico-legal Report by MM. Parchappe, Blanche, and Rouselin, is on the case of a peasant labourer named Leblanc, who was accused of setting fire to a village, and in whose behalf the plea of insanity was set up. The report is much too long to be here copied.

Suffice it to say that the accused was a drunken, lazy spendthrift, who had for a length of time announced to his fellow-villagers that some day their hamlet would be burnt, and some eight or ten days before a fire actually occurred and destroyed several cottages, had expressed a wish that a fire would happen. The fire began in an out-building of his brother's house. The accused was found, at the commencement of the fire, to be completely dressed, and out of doors, although it was in the middle of the night; moreover, he made no efforts to save his brother's goods, but went from house to house asking for drink. Very early on the following day, before the arrival of the authorities to investigate the affair, he took himself off. When captured he at first denied the crime, but afterwards admitted himself to be the author of it, and gave details of his proceedings, which he said he had prearranged a week previously, his motive being revenge upon his brother, who had not duly supplied him with money.

The reporters state him to be a man of small intelligence, of defective education, and of drunken, sensual habits from his youth. When a lad he suffered with tinea, and on that account was subjected to much annoyance from his companions. Feelings of envy, hatred, and revenge rapidly developed themselves in his incomplete and uncultivated nature; and when his brother was officially empowered to control his vicious habits, his animosity and desire of revenge were augmented. He practised much dissimulation, and at the time of the conscription he appears to have successfully simulated nervous attacks and a convulsive seizure, and on this and other occasions to have exhibited much tenacity of purpose where his passions and wishes were concerned. During the earlier part of his trial he showed considerable shrewdness, though he gave contradictory evidence in some particulars; but as the trial proceeded he began to simulate mental disorder, and persisted in so doing when under examination by the physicians.

The reporters observe, in conclusion, that if they do not look upon Leblanc as a lunatic, it is not because the act was premeditated by him, nor because he can display a certain tact and cleverness in evading inquiries, and in attaching the crime to other persons; for the insane are capable of premeditation, of practising a ruse, and of combinations which are often astonishing by reason of the association of ideas they require, and are generally deemed to be incompatible with a state of insanity; but because we have found in the accused no real sign of madness, although he has almost constantly simulated it in our presence; unmindful, however, of the part he wished to play, which is beyond his power, and not perceiving that he played it in an awkward and absurd manner that could deceive nobody; consequently we conclude Leblanc to have enjoyed the free exercise of his intellectual faculties at the time of the criminal

act, and that he was not in a state of idiocy, of imbecility, or of insanity, and was, therefore, conscious of his acts. We would, however, add that his intellectual and moral faculties are limited; that his originally feeble mind has been rendered more feeble by his habits; and that humanity would, therefore, plead in mitigation of his sentence. The sentence was five years' imprisonment with labour, and subsequent surveillance.

Chorea in its relations to Mental Disorder, is treated of by Dr. Thore at some length. He reviews the history of chorea, and shows that, until the time of Sydenham, this disorder was classed with *vesaniæ*, but that Sydenham rightly referred it to the group of convulsive maladies. Its relations to mental disturbance were recently ably considered by Marcé, in a memoir published in 1860, and since reproduced in his treatise on mental disorder. Marcé asserted that the cerebral functions are affected in two thirds of the cases of chorea; sometimes nothing more than a simple modification of the moral sensibility and of the intellect is present, but at other times these alterations are much more profound and resemble the pathological elements of insanity, as for instance, in the presence of hallucinations and of maniacal delirium.

After citing instances of chorea accompanied by mental disorder from various French writers, Dr. Thore relates two examples that have fallen under his own observation. In his first case the chorea and hallucinations of sight occurred in the course of a third attack of acute rheumatism complicated with double pleurisy and endocarditis, in a young girl fourteen years old. The second case was that of a young woman, aged seventeen, who, since an attack of typhoid fever with cerebral disturbance, had been somewhat melancholic, and in whom the chorea was preceded by a sudden suppression of the menses in consequence of cold. When the convulsive movements were at their height, hallucinations of sight and hearing supervened, together with a disposition to suicide and destructive tendencies.

Upon reviewing the particulars of his own cases, Dr. Thore inclines to regard the chorea as having no actual etiological relations with the development of the mental disorder. Furthermore, he remarks that, among Marcé's cases, the chorea was only once in every four instances the sole antecedent of the disturbed mental state, but that in the rest typhoid fever, rheumatism, hysteria, meningitis, &c., were concomitant. Finally, simple, uncomplicated chorea is rarely accompanied by delirium.

The consideration of questions like the foregoing in the manner pursued by Marcé can evolve no actual pathological truth; for the fact is that the irregular muscular movements, though grouped under the name of chorea, have no single pathological basis, and are not indicative of a special pathological lesion or true morbid entity.

The Pathology of General Paresis, by Dr. Sankey, is a translation by Dr. Rousselin. The value of Dr. Sankey's memoir (which appeared in the number of this Journal for January, 1864) is fully appreciated by our readers, and it must be highly gratifying to Dr. Sankey to find an equal appreciation of it shown by the psychiatrists of France and Italy, as evinced by the complete translation of it in the section of the 'Annales Médico-Psychologiques' under notice, and in the 'Archivio Italiano per le Malattie Nervose' for March, 1864.

Considerations on Gangrenous Sores of the Sacral Region, and particularly in cases of General Paralysis.—Dr. Geoffroy, the author of this paper, confines himself to the consideration of sores produced by pressure, and coincides in the opinion of M. Nélaton that such sores are the immediate consequence of interruption of the capillary circulation. In paralytics, as in the sufferers from fever, the insensibility of parts and the mental dulness allow the injurious pressure to continue and produce the mischief, which, by its extension at times, goes on to perforation of the sacro-coccygeal membranes, and to the consequent intrusion within the arachnoid sac of the cord of the sanious purulent discharges. Geoffroy states that cases of this sort have occurred in which the whole of the cerebro-spinal centres have become affected with gangrene.

He narrates five cases of severe gangrenous sores; three of them from his own observation. The first two cases present no extraordinary features; in the third one the dura mater of the spinal cord, from the neck to the sacrum, was covered with a purulent layer and false membrane closely adherent to it, the origin of which was attributable to the entrance within the spinal canal of sanious discharge through an opening in the fibrous membrane over the sacro-coccygean articulation, in an advanced case of general paralysis with bad bedsores.

The fourth case is taken from the 'Bulletin of the Imperial Academy of Medicine, and is from the pen of M. Baillarger. It was that of a paralytic female who had died after long progressing marasmus with extensive gangrenous bedsores over the sacrum. At the post-mortem examination the base of the cerebrum, and to a great extent that of the cerebellum exhibited a slate colour, a condition associated, as M. Baillarger had from previous observations convinced himself, with a gangrenous change of brain tissue. Moreover, the cerebellum exhaled a distinctly putrescent odour, although the autopsy was made twenty-four hours after death, and no trace of decomposition was visible about the body. The spinal cord was covered with a purulent layer resembling a soft false membrane, and, like the cerebellum, exhaled a gangrenous smell. There was also an infiltration of gas beneath the membranes of the brain, and on

submerging the brain in water, bubbles of gas escaped from the ventricles. In this case the bedsores were the point of departure of the spinal meningitis, and M. Baillarger holds the opinion that there is a direct relation between bedsores and the attacks of meningitis and subsequent slaty colour of the encephalon found in company with them, the spinal canal being perforated by the advancing gangrene. It must, however, be admitted that the slaty discoloration of brain matter with cerebral gangrene is not peculiarly the effect of bedsores, but may be an idiopathic condition or result from calcification of the arteries.

As a pathological fact this relation of cerebral gangrene and spinal meningitis with bedsores is noteworthy, but the fact of its occurrence may, as a well-nigh universal rule, be taken as evidence of bad nursing, of defective appliances, and of inadequate medical superintendence. In other words, such horrid penetrating bedsores, even in paralytics, discredit the institutions in which they occur.

On Medico-legal Inquiries relative to Insanity, is the title given by Dagonet to an analysis of a work on the 'Jurisprudence of Insanity,' by Prof. Mittermaier, of Heidelberg. The preface to this treatise assumes that injustice is frequently done the insane in courts of law, and that the legal profession and juries are especially to blame. The principal causes of the miscarriage of justice, apart from those due to prejudice and to erroneous legal maxims and precedents, arise from a faulty selection of professional men to examine and give evidence; from the employment by such individuals of means inadequate to arrive at an appreciation of the mental state; from the imperfect knowledge possessed by very many medical men of the results of the progress of psychiatry, and from the defective recognition by experts of the indications of insanity.

There is, Mittermaier observes, no provision and no security for the employment of medical experts well versed in psychiatry, although the highest skill and the largest experience are needed in investigating the mental state of a criminal, with the view of discovering his responsibility for his actions, and particularly so when insanity is feigned. A judge may be very competent to detect obscurity in evidence or contradictory statements, or the incomplete examination and enunciation of certain circumstances; but he is incompetent to decide whether the report of an expert is up to the mark as regards psychological knowledge and extent of observation. In fine, a decisive and exact report of the mental state of an accused person can only be looked for when an experienced psychiatrist is employed to draw it up, and after that, in the most important and serious cases, the individual concerned has for some time been placed under observation in an asylum. In all cases, the Government should choose as experts to give evidence only those that have

acquired large experience. Mittermaier remarks upon the insufficiency of the customary interviews and conversations with prisoners to afford matter for a decision as to their mental condition, and also upon the details gathered by examination in court, details more or less marred by the results of prejudice, of ignorance, and of misunderstanding upon the part of witnesses. Other obstacles to a correct representation of the mental condition arise from the manner in which the questions by the court are submitted to the medical experts, and Mittermaier rightly takes objection to such a putting of the question as that, whether the accused is suffering with mania or is a furious lunatic. He moreover points out that the question as put in English courts respecting the ability of a prisoner to distinguish between right and wrong, results in exclusive estimates and in erroneous judgments. It restricts the decision to one issue relative only to the power or freedom of volition, and ignores the operation on the mind of fixed ideas confusing the natural opinions respecting right and wrong, as also of the possible influence of irresistible impulse.

Dr. Dagonet's paper on "Lunatic Asylums" is occupied by a defence of the French Law of Lunacy of 1838, by which the existing asylums were instituted and are now regulated. The attacking party is a coalition of the supporters of priestly power and of demagogues. The former section profess to regard a lunatic as an individual with a sound organism, but having a spiritual essence disordered, and who therefore requires spiritual medicine, administered by ghostly hands in a conventual establishment. The democratic section, on the other hand, raise the cry of the unlawful and unnecessary detention of thousands of citizens on the ground of insanity imputed to them. A Dr. Turk has, in a recent pamphlet, made the astounding assertion that the number of actual lunatics in France at the present time is not greater than it was in 1838, and that the enormous augmentation in the number of inmates in the asylums is a result of the mischief-working law of 1838. This assertion M. Dagonet undertakes to disprove; an undertaking of no great difficulty when numerous public documents exist to be appealed to, with confidence to sustain it. M. Dagonet further defends asylums as places of cure, and shows that by the law every precaution is taken against unnecessary detention on the ground of insanity. To give greater confidence to the public in the administration of asylums, he proposes the appointment of a managing committee of disinterested persons of position, and of district inspectors, subordinate to the chief inspectors already appointed, chargeable with the supervision of asylums within the area of their authority. In conclusion, M. Dagonet reviews the propositions to establish village colonies for the insane, and farms for their employment apart from asylum accommodation, as usually provided. He

is opposed to farming out the insane, as at Gheel, with cottagers, and prefers the immediate connection of the farm with the central asylum.

In the November number of the '*Annales*' M. Dagonet returns to the discussion of the law relating to the insane, and to lunatic asylums. He briefly re-enters upon the question of the increase in the number of the insane, and affirms his belief in it, and then passes to the question whether asylum accommodation for them is adequate, but fails to consider it on account, he admits, of not having the requisite information. However, he advances the statement (on what authority is not mentioned) that in Belgium there are 51 establishments for the insane, or one to every 88,000 inhabitants; in Russia 65, or one to about 215,000; in England, 181, or one to every 88,000, and in France, 104, or one to every 336,000. It must (he remarks) be borne in mind, however, that the greatest number of private asylums is to be found in England.

The subsequent portion of his paper is occupied with the discussion of the modifications called for in lunatic asylums. The ardent love of country betrays him into a little glorification, of doubtful authenticity as to its basis, respecting the initiative by France in erecting special institutions for the insane, and in framing laws for their governance and for the protection of their inmates. The French law of 1838 acted, he tells us, as a mighty impulse to the study of mental disorder, and furnished the example of legislation for the should-be-grateful imitation of Belgium, Germany, England, Italy, and elsewhere. Whilst fully appreciating the many excellencies of the French lunacy code, our convictions are that the English code is not a copy of it, but that our lunacy laws acquired cohesion and a definite form when those of France were in a chaotic state. In 1815, and subsequently, very searching Parliamentary inquiries took place respecting the condition of the asylums then existing, and during the reign of George III county asylums were established by law, and subjected to supervision and control. Further, by an Act passed in the next reign returns of the lunatics and idiots throughout the kingdom were ordered to be regularly made, and numerous further regulations to asylums and the insane were enforced. Additional enactments were passed in the reign of William IV, amending and extending the lunacy laws; and thus, before 1838, the principal clauses of the existing lunacy code of this country were in full operation, and a body of commissioners appointed to inspect and report upon their due observance.

To return. In pursuing the subject of inquiry relative to the modifications of the existing law demanded at the present day, M. Dagonet briefly narrates the principal features of the French law, and follows this account by a very short notice of the leading principles pursued in several countries of Europe, in providing for the

security and well-being of their insane. After this sketch of the prevailing state of the law in France and elsewhere, M. Dagonet proceeds to examine the defects found in the French Code of 1838, noticing first the discussion that has of late taken place relative to the intervention of the administration, in directly consigning persons to lunatic asylums upon its own authority. He advocates the continuance of this power in the hands of Government, and regards the right of appeal to a court of law against its exercise, as possessed by the person secluded and by his friends, to be a sufficient guarantee against the abuse of such power. The complaints raised against this exercise of Government authority he considers to be exaggerated, and holds that such authority should be lodged in the hands of the administration, to obviate the otherwise very serious inconveniences that would ensue. To guard against its abuse, he proposes that the judicial authority should be invoked to sanction the seclusion, by sending to the "Procureur Imperial" a note drawn up by the physician of the asylum, and sanctioned by the administrative committee, setting forth the indications of insanity and the circumstances connected with the removal of the individual to the asylum. This done, the "procureur" would be free to institute such proceedings or to call for such explanations as he might consider necessary.

The next topic for legislation adduced by M. Dagonet is the care of drunkards. In Sweden, he states, every individual found for the fifth time in a state of intoxication is shut up in a house of correction, and if he again fall into the same state he is confined for a year.

The provisions of the law relating to criminal lunatics call for amendment, and Dagonet proposes that when a patient belonging to that class recovers, he should be set free upon the certificate of the physician of the asylum setting forth the acts of which he was guilty and the premonitory symptoms of mental disturbance, and upon his friends undertaking his surveillance, and the responsibility of reporting the first symptoms of mental disturbance. If no relatives be found to undertake this charge, the patient might be placed under the surveillance of the local authorities, and be visited from time to time by a medical man appointed for that purpose.

The continued enlargement of asylums demanded, and the accumulation of incurable patients within them, call for some remedy. Dagonet rejects the cottage-system, and is opposed to the erection of distinct establishments for incurables; but he proposes to separate idiots and epileptics from lunatics in special asylums; and a large number of inmates collected in asylums, and loosely classed as insane, labouring under various cerebral lesions, he proposes to transfer to wards of hospices specially constructed for their resi-

dence. "If," he writes, "it be admitted that among the population of our asylums, 6 per cent. are epileptic, 10 per cent. are idiots, or imbeciles, and 25 per cent. demented, or paralytic, then somewhat more than 40 per cent. of their inmates are unnecessarily accommodated within their walls." For an asylum, as Griesinger has remarked, is rightly an hospital for the treatment of cerebral disease, and consequently should possess the characteristics of an hospital, and not be converted into a school, a manufactory, or a prison, as has happened more or less with lunatic asylums generally.

The several modifications and reforms in lunacy regulations referred to as necessary by M. Dagonet have at various times, and for years past, engaged the attention of British asylum superintendents; and we commend to his perusal the various articles on such matters as have appeared in this Journal. In fact, English lunacy legislation is in the matter of some of the arrangements he discusses in advance of French, and he may learn from our Commissioners' Reports, and other sources, with what success.

An account of the *Wild Man of the Var* is given by Dr. Mesnet, who visited him in his sylvan retreat near Hyères. This so-called wild man was the subject-matter of some sensation in Paris a year or two ago, and an interesting history of him was artistically dressed up in the journals for the delectation of the lovers of the marvellous. But this "wild man," after all, proves on examination to be a very tame one. His nails have not grown into claws, nor have his canines developed into tusks; neither does he seek to devour his fellow-men, or to scare them by any exhibition of outrageous animal propensities and vigour. In short, he is not half so perfect a specimen of a wild man as was many a now canonized hermit who had his habitation in some rocky cavern, and fled the fellowship of his sinful neighbours. For this pseudo-savage of the Var mixes with his fellow-labourers in the forest, though he chooses to pitch his cabin apart from theirs; and, as M. Mesnet's visit proves, delights in a gossip with a marvelling visitor, and altogether is evidently pleased in attaining notoriety. There is, moreover, no mystery about him or his origin; he has had a name duly imposed upon him in his infancy, knows his relatives, and the place of his birth in Savoy; whilst, to spoil the beau ideal of his wildness, officious people have, at some early period of his life, taught him his letters sufficiently to enable him to read and to write a little, and to speak French with much correctness. Further, like a civilised slave, he works for wages, and buys from those near him what he covets. But that he may not completely collapse into a common labourer of the everyday type, he exhibits peculiar tastes in regard to food, and is a believer in the Darwinian hypothesis. Like certain French sages of the last century, he, however, regards the perfectibility of

human nature to be realised in an assimilation to what they fondly designated the state of nature and of innocence. Laurent, for so is our savage friend named, abhors whatever tends to restrict liberty of action, and consequently, as the possession of a wife and the procreation of a family are, unfortunately, inimical to perfect freedom, he eschews such impedimenta. Another offensive custom, too much in vogue, is that of work; consequently Laurent would aim at a state of life without work, and without the encumbrance of property. Unluckily, at present he is compelled to work in order to obtain certain articles necessary to him, but he has already invented an expedient for saving the cost of clothing, by preserving all the hair that falls from his uncropped head and beard, with the view of weaving it into a comely garment, for he feels called upon to sacrifice so much of his perfectibility to the usage of society as to forego the gratification of a state of nudity.

M. Mesnet delivers himself of a brief peroration on the psychologic state of this strange being, the sum and substance of which is, that he is the victim of a single idea, or a sort of monomaniac.

Dr. Kühn is the author of a long notice of an *Hystero-demonopathic Epidemic* that prevailed for several years at Morzine, in Upper Savoy. Dr. Constans drew the attention of the French Government to it in 1861, and Dr. Kühn was sent in 1864 to report upon it. The prominent symptom is that of the belief in demoniacal possession, not as a monomania, but as the product of a pre-existing nervous derangement, originating in the foolish teachings of the priests in the district. Neuropathic affections, in the form of hysteria and hypochondria, have long prevailed endemically at Morzine; the former among the female, the latter among the male population. These nervous disorders may be regarded as hereditary among the inhabitants of the commune, and have been intensified among them by intermarriage, and by consequent physical and moral degenerescence. Their food, moreover, is poor, consisting of rye-bread, potatoes, smoked meat, often decomposing, with milk and cheese. Their cottages are miserable cabins, and they are in a state of great ignorance, and cut off from intercourse with other more civilised localities.

In many cases a single predisposing cause sufficed to originate the convulsive hysteric malady, but far more frequently several such causes concurred. Preceding the actual outbreak of the endemic, the hysterical, chlorotic, and ill-nourished condition of the inhabitants was, from various causes, more developed, and hallucinations and illusions prevalent among them, particularly among the females. The preparations and ceremonies of a "first communion" supplied the torch to kindle this smouldering state into a flame, and to give birth to the convulsive attacks dependent on the belief in diabolical

possession. The young women rolled on the ground, struck their breasts to knock out the devil that choked them, and screamed and shouted in the most approved manner. The first girl attacked was a child of a lunatic father and an hysterical mother. The priest pronounced this case, and others that quickly succeeded, to be one of diabolical possession, and prescribed exorcism as the only correct and canonical remedy; but notwithstanding the zealous practice of exorcism by the priests, day and night, oddly enough the devil seemed to gain the mastery, for his tormented subjects augmented in numbers daily; his subservient imps being, without doubt, encouraged to secure their master the complete dominion of this interesting village, notwithstanding the heavy discharges of curses, with bell, book, and candle, against them, by the brave priests, who stoutly stood their ground. And well-nigh the powers of darkness prevailed, for, excepting two or three sceptical inhabitants, the whole population became impressed with the conviction that the devils indeed were making themselves at home with them. But, as Dr. Kühn jocosely remarks, the devil, having taken up his habitation among the Morziners, was not content with half measures, for he most unkindly pounced upon their cows, cats, dogs, pigs, &c., and incited them to unusual conduct, requiring the strong measure of exorcism by the priest for relief. Nor was relief always withheld. A poor possessed pig having, after some trouble, been got on his way homeward as far as a bridge, refused, in spite of all his mistress's encouragement, to cross the bridge; whereupon the thoughtful proprietor of the pig, leaving him bewitched where he was, made the best of her way to the most active young priest, and brought the reverend gentleman to the spot. With alacrity he exorcised the afflicted porker, and, to add to the virtue of the ceremony, placed his sacred stole around the pig's neck, and, happy result! Mr. Pig immediately recovered his legs, and obediently trotted over the bridge. As bad luck would have it, success did not invariably attend upon priestly exorcism and holy water, and the consequence was various individuals attacked resorted to unauthorised persons, who professed to cast out the demons. In spite, however, of priestly and other professors of exorcism, the malady continued to prevail, and only received its first check when the province fell under French rule, when the civil authorities interfered, and in some way so affected the intelligence of the priests as to open their eyes to perceive that what they had supposed to be a demoniacal possession was, after all, a bodily disease.

In 1861 the malady was fanned into more violent activity by a "mission" of priests among the people, followed by the appearance of the Archbishop of Annecy, to receive repentant sinners, to confirm the younger people, and in general to perform various exciting ceremonies. The Minister of the Interior sent a commission to in-

investigate the affair, but the successive appearance of two detachments of troops had a wonderful effect upon the possessed community, and led to an emigration of a considerable number who were swayed by certain fears respecting the purpose of the introduction of the soldiery among them. Dr. Kühn, who was now in Morzine, took advantage of the presence of the troops, and, with the aid of the commandant, instituted singing-clubs, had the band play, and instructed the younger people in music.

The crisis of the malady is ushered in by tonic or by clonic convulsions, though the one form may alternate with the other in the same individual, and even in the course of the same paroxysm. These convulsions are preceded by pallor, fixing of the eyes, partial convulsions of the face, spreading to various parts of the body; afterwards cerebral excitement, loquacity, and at length furor with hallucinations and illusions of various kinds, those about the patients appearing changed, and generally black in colour. The sufferers now no longer recognise their relatives, and see nothing around them but devils, whom they seek to strike, shouting out at the same time the number of devils they themselves are tenanted with, and bewailing their own condemnation to eternal fire. The devils speak within them, and so quickly, they state, that they cannot follow their words, and in consequence are incoherent. Some feel great oppression of the chest, and fight to relieve themselves of it. During the crisis they require careful watching and care, to prevent them injuring themselves or others.

Dr. Kuhn speaks of three classes of cases—one of simple “hysterism,” without convulsions; a second of “hysterism” by imitation, in which the sufferers fall into convulsions on seeing others in them; and a third, of constitutional “hysterism,” in which the convulsive features and the hallucinations are fully developed.

The remedies to stop the epidemic were, the soldiers and their band, above spoken of, an importation of new priests to replace the old, the intermingling of fresh civil servants, and the dissemination, as widely as possible, of those attacked over a large area.

II.—English Psychological Literature.

By S. W. D. WILLIAMS, M.D., Assistant Medical Officer of the
Sussex Lunatic Asylum, Hayward's Heath.

On Delirium or Acute Insanity during the Decline of Acute Diseases, especially the Delirium of Collapse. By HERMAN WEBER, M.D., F.R.C.P., Physician to the German Hospital.

(Reprint from the 'Medico-Chirurgical Transactions,' Vol. XLVIII.)

IN this interesting pamphlet Dr. Weber treats of a species of delirium which he names the *delirium decrementi* (delirium of the stage of decrease), a delirium which "breaks out when the disease has already entered into the stage of decrease, when the fever has almost or entirely ceased, and when, perhaps, the patient has just been declared convalescent."

Dr. Weber thinks this secondary delirium is but little known to medical men generally. We believe, however, we may assure him that but few psychologists can be unacquainted with it.

Dr. Weber then relates in detail seven very interesting cases, as serving to illustrate the disease, of which the following may be taken as a good instance.

"CASE VI.—L—, æt. 22, of rather excitable temperament and inclined to work beyond his strength, after having felt some amount of lassitude during several weeks, exhibited the distinct phenomena of typhoid fever in the first days of August, 1864; he had fever, headache, diarrhœa, rose-spots, enlargement of spleen, &c., all well marked, but not excessive; the symptoms of pyrexia culminated between the 6th and 8th of August, when the temperature varied between 38·5° and 40·2° cent. 101·3° and 104·36° Fah.), and the pulse between 90 and 98.

"There had not been any delirium during this period. After August 9th the temperature never reached 38·5° cent. (101·3° Fah.). The patient received a moderate amount of stimulants, beef-tea, and milk. On August 12th, at 9 a.m., the temperature was only 37·5° cent. (99·5° Fah.); the pulse 78; no more diarrhœa; no fresh rose-spots. At 7 p.m. temperature 38·3° cent. (100·94° Fah.); pulse 88. During the following night he became suddenly delirious; he left his bed, went into the hall, and was on the point of quitting the house, when

he was arrested and with some difficulty persuaded to return to bed; he fancied he had been called to perform some urgent business. After a while he imagined he was to appear before the coroner's jury in Müller's case (the murderer of Mr. Briggs); again after some time he believed that a young woman was bringing an action against him for breach of promise of marriage, which he never had given. On the whole, the subjects of the delirium were changing. At the same time the patient presented the appearance of collapse; the face pale; the extremities rather cold; perspiring freely. (Moderate doses of opium, wine, and beef-tea.)

"At 9 a.m. on August 13th he was calmer, but not yet free from delusion; he gave, however, reasonable answers to pointed questions. Pulse 90, weak; temperature 37.1° cent. (98.78° Fah.). Towards the evening he slept occasionally, and during the following night, after half a grain of morphia, he had much sound sleep. On August 14th he was quite reasonable; the pulse at 9 a.m. was 74; the temperature 37.2° cent. (98.96° Fah.). No delirium returned after this time. The temperature remained still above 37° cent. (98.6° Fah.), therefore slightly above the standard, for six days, but the convalescence was not otherwise interrupted, and the recovery was perfect."

This insanity or delirium has a very different aspect to the *delirium febrile*. The temperature of the blood is slightly above the normal standard, but there is little apparent pyrexia. The pulse is mostly frequent, but weak and often irregular; extremities cold; face pale, and skin bedewed with a cold clammy sweat; in fact, "the general appearance of the bodily condition, in spite of the mental excitement, is that of prostration or collapse."

The mental symptoms are those of mania, "with delusions of an anxious nature, and hallucinations of the senses, especially of hearing."

The mental aberration is usually of but short duration, lasting for from "eight to forty-eight hours." Occasionally, but rarely, other forms of insanity, such as dementia, have been known to supervene, and the malady may last for from a few minutes to months.

In nearly all the cases Dr. Weber relates the delirium presented itself in the morning, shortly after waking. Almost all observers agree that this condition is due, as, indeed, the symptoms seem clearly to point out, to anæmia; not, however, as Dr. Weber points out, to anæmia caused by repeated losses of blood, but "to a sudden and transitory change in the capillary circulation of the brain, and through this to an equally transi-

tory change in the nutrition and action of the brain-cells, a change which may be caused by a sudden sinking of the heart's power." Dr. Weber does not, however, think it can be due to any particular morbid poison influencing the brain. Moreover, it appears to supervene on diseases of moderate as well as of great intensity.

The prognosis is, as a rule, favorable; and "although Graves calls it a 'delirium of the most violent and dangerous description,' all his patients seem to have recovered."

Dr. Weber sums up the treatment adopted in his cases in the following words:

"The treatment adopted in the cases related to the society consisted in the use of opiates, in rather large and frequently repeated doses, to allay the irritability of the brain, and in the simultaneous employment of means to counteract the collapse, viz. stimulants applied externally and administered internally, artificial warmth to the cold extremities, and food. The patients were, at the same time, kept as quiet as possible, and prevented from injuring themselves and those around them, and this, probably, in many instances would be sufficient, without any medicinal interference; but the opiates appeared certainly to accelerate the return of sleep and reason, and they were borne remarkably well by the system, and might, perhaps, be administered in even much larger doses, if the smaller were not found efficient enough. Graves, too, gave opium, but in addition in some cases extract of belladonna in large doses, and tartrate of antimony. Opium seems to possess also the approbation of Griesinger."

On the Statistics of Puerperal Insanity, as observed in the Royal Edinburgh Asylum, Morningside. By J. B. TUKE, M.D. Edin., Medical Superintendent of the Fife and Kinross District Lunatic Asylum.

('Edinburgh Med. Journal,' May, 1865.)

THE subject of this paper is based on 155 cases of puerperal insanity, collected together and arranged from the case-books of the Edinburgh Royal Asylum, as reported by the various resident physicians for the last eighteen years.

Dr. J. B. Tuke premises his subject by pointing out that "the results of treatment of puerperal insanity, *as a whole*," cannot be deduced from these 155 cases, because they only represent a state of disease so severe as to necessitate removal to an asylum, and leave entirely untouched the many milder

forms of the disease treated at home. He then proceeds to follow the example of various other authors, and divides his subject into three classes—

Insanity of Pregnancy,
Puerperal Insanity,
Insanity of Lactation ;

and he finds that between the 1st of January, 1846, and the 31st of December, 1864, there were 2181 female cases of insanity treated in the Royal Edinburgh Asylum, of whom 155 were "so-called puerperal cases, making a per-centage of 7·1, and that of these 155 cases divided as above—

" Insanity of pregnancy numbered 28, or 18·06 on the total.			
Puerperal insanity	"	73, or 47·09	"
Insanity of lactation	"	54, or 34·8	"

Insanity of Pregnancy.—The 28 cases belonging to this heading seem to have been tolerably evenly distributed between fifteen and forty-four years of age, the largest number occurring at twenty-nine; nine out of the total of 28 were primiparæ, which might be expected, as Dr. Tuke points out, "when we take into consideration the moral exciting causes, anxiety and dread of the coming event, which exist to a greater degree in the inexperienced woman." The seventh month of pregnancy is the one in which the expectant mother is most liable to become insane. The symptoms are, as a rule, says Dr. J. B. Tuke, of the melancholic type, and the suicidal tendency is most marked. Moral insanity, especially dipsomania, sometimes shows itself. "This generally occurs during the earlier months of gestation, and is probably only an aggravated form of the well-known morbid craving or longing for particular articles of food which characterises the earlier months of pregnancy."

The prognosis in this form of disease is generally favorable. Nineteen cases recovered within six months, and "of itself it is not fatal."

Puerperal Insanity.—These numbered 73; "And of the 28 cases whose age was thirty and upwards, 8 were primiparæ, a fact suggesting the increased liability to mental derangement of women who become mothers for the first time at that somewhat advanced period of life." In all cases, however, of first confinement, whether of young or of middle-aged women, the first confinement is the most dangerous; and in all the cases but two maniacal symptoms began to show themselves within one month of confinement.

Regarding the symptoms of puerperal insanity, it is curious to remark that when the insanity developed itself beyond sixteen days after labour it was of a melancholic type; when before that period, acute mania was the result. In only three cases did Dr. Tuke detect albumen in the urine.

The table of results shows a per-centage of 76·7 "of recoveries, 10·9 of deaths from all causes, and 9·5 of patients who became demented."

"The system of treatment in the Royal Edinburgh Asylum has been very uniform. The support of nature to withstand the wear and tear of the disease is, of course, the most important; for this purpose the constant administration, artificially if necessary, of custard and beef-tea, little and often, has been found the most effective and convenient. Of late stimulants have been to a great degree discontinued in excited cases, as they appear to aggravate the mania, without affording any permanent support to the system. In melancholic cases, on the other hand, a limited amount of wine or whisky is most beneficial. Sedatives, in whatever shape, are looked upon with distrust, for, however much they may subdue the intensity of the symptoms, it is believed that they prolong the duration of the paroxysm. In one case, in which cannabis indica was exhibited in large doses, I have to confess that it is my belief that the patient was far from benefited; on the contrary, the period of dementia with delusions was unusually long, although she ultimately recovered her reason. But again, on the contrary, in some of the women whose cases are characterised by restless melancholy or dementia, the administration of large doses of morphia has been accompanied by the very best results; under this treatment a few cases of this nature have recovered rapidly. Nature seems to indicate the remedy; in those where there is great intolerance, as evidenced by sickness and vomiting, I have rarely seen happy effects produced by pressing the drug. Sedatives in large doses have been strongly recommended by some authors at the commencement of the attack, with the view of arresting it; of this I cannot speak, but feel certain that such a course, pursued after the mania has established itself, will not be found successful in the great majority of cases."

Insanity of Lactation.—In this form also a large proportion of cases occurred after thirty years of age, and scarcely any supervened on the first nursing. Too prolonged lactation is very dangerous, "the very large proportion of cases having occurred after the sixth month of nursing."

"Acute mania evidenced the insanity in 10 cases, melancholia in 39, and dementia in 5. The acute mania, as a rule,

in this form of insanity is severe but evanescent ; it rarely lasts more than ten days or a fortnight, and is generally attended with hallucination of the different senses, and delusions, as in puerperal mania, of mistaken identity."

"In almost all cases of insanity of lactation which have come under my notice during the last two years, exophthalmia and bruit de diable have been marked symptoms."

In a disease so essentially anæmic a stimulating treatment is absolutely necessary.

A Lecture on Delirium Tremens: its Symptoms, Pathology, and Treatment. By GEORGE JOHNSON, M.D. Lond., F.R.C.P., Professor of Medicine in King's College, Physician to King's College.

('Lancet,' April 21 and 28, 1866.)

THESE are the substance of two interesting and suggestive lectures delivered by Dr. George Johnson, the learned Professor of Medicine in King's College, and published in the 'Lancet.'

Dr. Johnson commences by pointing out, 1, that the chief and universal characteristics of this disease are a peculiar form of delirium, accompanied with spectral visions, a general unsteadiness and trembling of the voluntary muscles, and obstinate wakefulness. 2. That the causation of the disease is almost invariably due to excessive abuse of alcoholic stimulants, but that in exceptional cases it may be caused by any prolonged depressing emotion.

He then proceeds to give a graphic description of the symptomatology of "the horrors," as this disease has been named by sailors—a class amongst whom, as Dr. Johnson does not fail to point out, it is very common.

Patients suffering from delirium tremens, like those labouring under insanity, have their sensibilities blunted, and appear to have but little consciousness of physical sufferings. "This is an important fact to bear in mind ; and it shows the necessity for watchfulness, lest some serious disease escape detection."

Dr. Johnson then dwells strongly on the importance of avoiding as much as possible "any violent exertion on the part of the patient," as it is very apt to induce rapid and great exhaustion, and even sudden death. "This tendency to sudden death from exhaustion is accounted for by the condition of the heart," which is in a state of fatty degeneration, due to the fact that drunkards eat little solid food, but live on a diet abounding in hydrocarbons, and deficient in nitrogenous materials.

"This degeneration of the muscular tissue of the heart is the most constant and the most important structural change discernible after death. The brain and its membranes are usually quite healthy. Sometimes there is an appearance of increased fulness of the bloodvessels, and there may be some serous effusion beneath the arachnoid in the meshes of the pia mater. Occasionally, too, though less frequently, the arachnoid is found more or less opaque and thickened. These, however, are only occasional and accidental appearances; they are not of the essence of the disease, for they are found when there has been no symptom of delirium tremens; and, on the other hand, they are wanting in the great majority of fatal cases of the disease.

"Delirium tremens does not depend on inflammation of the brain and its membranes, as it was long supposed to do. It may, however, be complicated with inflammatory changes; and it is surprising that this inflammatory complication is not more frequent than it is actually found to be. If we consider the vast amount of alcohol consumed by an habitual drunkard; the obvious influence which it has in disturbing the *functions* of the brain; and the great affinity which appears to exist between it and the cerebral tissue, as shown by the fact (which Dr. Percy was the first to discover) that alcohol may be obtained in considerable amount from the brain of a dog that has been poisoned by it: these facts would naturally lead one to anticipate that inflammation of the brain and its membranes would be a frequent result of alcoholic intoxication. The reverse, however, is the case. I remember to have seen only one case in which, after death with symptoms of delirium tremens, there were decided indications of meningitis in an effusion of lymph as well as serum beneath the arachnoid."

It may here be remarked that Dr. Johnson's views on the pathology of delirium tremens are not those held by some other observers. Dr. Aitkin goes so far as to say that "the nervous centres present the greatest amount of morbid change, the morbid appearances within the head extending over ninety-two per cent. of those examined."

It is undoubtedly true that the muscular tissue of the heart does degenerate; but that is only part of the truth, as degeneration of all muscles takes place. Another fact not commented on by Dr. Johnson is the partial retention of most of the substances which ought, the functions of the body being healthy, to be eliminated, but which, owing to the omnipresence of alcohol in every tissue and fluid of the body, are retained: thus fat is retained in the blood, often in large quantities. The hydrogen of the alcohol unites with oxygen, producing water, "which with acetic acid having been produced, carbonic acid and water are formed" (Aitken). Oxygen is thus diverted from its functions, and the excretion of carbonic acid by the lungs, and of urea by the kidneys, are both much retarded; and, as Dr. Aitkin remarks, this retention of the effete matter is still more intensified by the stimulant action of alcohol increasing for a limited time the frequency of functional acts, followed as it is by a corresponding depression.

Dr. Johnson then proceeds, apparently on no other evidence than his *ipse dixit*, to argue that delirium from exhaustion and delirium *à potu* are essentially of the same character. He then relates a case

of delirium from exhaustion from Dr. Abercombie's work on Diseases of the Brain, and proceeds thus :

"Some pathologists would deny that this was really a case of delirium tremens; they would call it delirium from exhaustion, which it unquestionably was, as the history of the disease and the result of treatment clearly show. But I maintain that delirium tremens is also essentially an instance of delirium from exhaustion, and that the direct action of alcohol is *not* an essential element. What is common to all forms of delirium from exhaustion, and what therefore is essential is this: that there is a mental and bodily element—some grief or disappointment, vexation, anxiety, or terror, acting upon an enfeebled body. The delirium of intoxication is entirely distinct from that form of delirium which we call delirium tremens. The delirium of intoxication is a direct effect of the presence of alcohol in the blood; whereas alcohol is only *indirectly* concerned in the causation of delirium tremens. An habitual excess of alcohol tends to impair the nutrition of the brain and to exhaust the powers of the body by excluding wholesome food and deranging the digestive process, and in this way, rather than by direct toxæmic influence, it acts as a predisposing cause of delirium tremens."

Dr. Johnson would thus seem to infer that for the causation of delirium tremens, "some grief or disappointment, vexation, anxiety, or terror," must supervene on an abuse of alcoholic stimulants; and he presumes that, in his typical sailor, grief for the loss of his money is this exciting cause. Verily Jack is more easily impressed than might have been imagined from his usual dare-devil character.

According to Dr. Johnson, three modes of treatment have been pursued in this disease :

1st. The antiphlogistic, now by general consent abandoned.

2nd. The treatment by opium, which is in very general use.

3rd. Dr. Laycock's eliminative treatment, with abstinence from alcohol and opium.

Reviewing this theory of Dr. Laycock's, Dr. Johnson writes thus :

"Recently, another theory of delirium tremens has been advocated by Dr. Laycock. This theory is, that the presence of alcohol in the blood is the immediate cause of the disease, and therefore that the main object of treatment should be to eliminate the alcohol. Opium and alcohol must, according to his theory, be injurious in the treatment, since opium checks elimination, and the administration of alcohol tends to perpetuate the disease; yet, with curious inconsistency, Dr. Laycock states that a glass of wine with gruel at bedtime is a very useful soporific in the treatment of delirium tremens."

Dr. Laycock, however, in a letter in the 'Lancet' of the following week, declares that Dr. Johnson "is entirely mistaken in attributing this eliminating theory of the pathology and treatment of delirium tremens" to him. Dr. Laycock's views on this disease having, however, been given in the pages of this Journal (July, 1863), they need not here be recapitulated.

Dr. Johnson considers the second mode, viz., the treatment by opium, to be the one most worthy of practice, and he confines himself to it. His remarks on the treatment are shortly as follows:—He advises that the patient shall, if possible, be placed in a padded room, and left to himself: if that be not possible, the services of two attendants should be secured rather than recourse had to the strait-waistcoat, so essential is it that any prolonged struggling, such as might take place in a camisole, should be avoided, patients in this disease being so liable to die of sudden exhaustion.

The following remarks appear to me to be so valuable that I cannot resist transferring them to these pages:

“Whatever else you do or leave undone, never neglect to feed a delirious patient. If he will take food when he first comes under treatment, give it immediately, and let it be repeated as soon as he will take it. If there be, as there often is, a disinclination for food, with nausea and a coated tongue, an emetic of ipecacuanha, followed by a dose of calomel and colocynth, or a saline laxative, will be of use as a preparation for food and for the opiate, which may best be given at bedtime. You may then give from a half to one drachm of tincture of opium, which I believe to be a better soporific in these cases than the salts of morphia; and a smaller dose may be given in three or four hours if necessary. The first object is to procure sleep. But here I wish to impress upon you the necessity of great care and watchfulness. Do not make rash attempts to force on sleep by repeated large doses of opium. These attempts will often fail to procure sleep, and they may kill the patient. It is an undoubted fact, that opium in many of these cases has no soporific effect whatsoever. And not only in cases of delirium tremens is opium uncertain in its operation. When we give opium in ordinary cases of disease as an anodyne or a soporific, we can never be sure that it will cause sleep. In a considerable proportion of cases opium *prevents* sleep, and makes the patient more wakeful than he would have been without it. Another not uncommon effect of an opiate is to cause nausea and faintness. These two effects of opium should always be borne in mind in the treatment of delirium tremens. Remember that when opium fails to act as a soporific in delirium tremens, it is not inert, and must not be given in repeated large doses as if it were; while it fails to procure sleep, it may be exerting a powerful depressing and paralysing influence upon the heart. The symptoms of opium thus acting on the heart are these:—The patient continues wakeful, excited, and delirious, but grows rapidly weaker; the pulse becomes quick, small, and feeble; the pupils are contracted; the skin is bathed in a profuse sweat; and if the opium be continued in large and frequent doses, the patient rapidly sinks, but remains wakeful and conscious until, perhaps, within a few minutes of the end. The opium in these cases acts as a powerful sedative on the heart, and in proportion as it does this it fails to exercise any soporific influence. If you find that opium is acting thus injuriously, you must immediately discontinue it, and give liberal doses of brandy, or the stimulant to which the patient has been accustomed. Full doses of quinine, too, will be of use as a tonic; and nutriment, either in the liquid or solid form, should be freely given.”

Chloroform vapour, Dr. Johnson thinks, has the immediate effect of quieting the delirium and excitement, but is productive of no permanent benefit.

The use of large doses of digitalis Dr. Johnson condemns *in toto*.

Practical Observations on certain varieties of Insanity that are frequently confounded. By HENRY MAUDSLEY, M.D. Lond.

I.—*Melancholia with Stupor and Dementia.*

(‘Lancet,’ April 7th, 1866.)

DR. MAUDSLEY, after pointing out how easily different varieties of insanity glide into one another, and how difficult it is to draw a clear line of distinction between them, proceeds to say :

“Two sorts of insanity which are very like one another, and are not seldom confounded, but which are really different, are a form of melancholy known as ‘melancholia attonita,’ or melancholy with stupor, and the stupor of actual dementia.

* * * * *

“In melancholia attonita, or melancholia cum stupore, as it is sometimes called (*mélancholie avec stupeur*, or *stupidité*, by the French; *Melancolie mit Stumpfsinn*, by the Germans), the patient has certainly the appearance of one demented. He moves sluggishly to and fro, or stands statue-like in one place, or sits quite impassive; and where he stands or sits, there he must be fed, and there he passes his motions; for bodily wants and necessities are alike unheeded. The expression of the face is that of vacant, self-absorbed amazement, the patient being as one astonished; or it takes the fixed form of some painful passion; as if in a trance, he scarce seems to see or hear; there is partial or general insensibility of the skin, and consciousness of time, place, and persons is lost. The muscles of the body are generally lax, or some of them may be fixed in a cataleptic rigidity. Extinct as all intelligence, feeling, and volition seem to be, the patient’s mind is still not a blank, for it is possessed by one great and terrible delusion—as, for example, that the world is come to an end; that he is in hell; that he is standing on the edge of a volcano or of a sea of blood, and must not move a step for fear of his life; and when he recovers, he is as one awakened out of a frightful dream which he remembers. How is such stupor to be distinguished from the stupor of actual dementia? To an on-looker the patient is to all intents and purposes demented; for as to live in one sensation would be equivalent to having no sensation at all, so for a mind to be entirely absorbed in one terrible delusion—to be fixed, as it were cataleptically, in one persistent state of morbid consciousness—is equivalent for the time being to there being no mind at all.

“This condition may sometimes be distinguished from the ordinary form of chronic secondary dementia by the gradual supervention of the latter on some other form of mental disease, when the history of the disease can be traced. Not always so, however; for, although melancholia with stupor is sometimes primary and of sudden origin, it occurs at other times after epileptic attacks, and after acute mania, with which last it may even alternate. Moreover, there is an acute dementia of sudden origin, scarcely noticed in books, which has the closest resemblance to melancholia with stupor, and which there is the greatest difficulty in distinguishing from it. It is important, then, to recognise the usual conditions of the occurrence of acute dementia, more especially as they have not hitherto received due attention.

“Acute dementia sometimes follows a serious attempt at strangulation, or

a series of epileptic fits, and lasts for a few hours or days; and, in one case which came under my observation, there was a strong reason to believe that a masked epilepsy appeared in that guise. A man of epileptic visage, and said to have had 'fits' occasionally, was suddenly, after some faintness, affected with a blank confusion of mind, and complete inability to recognise anybody or anything—to remember the past or appreciate the present; he was, in fact, completely demented. So he remained for a few days, and then got quite well. It is well known to those who are familiar with the manifold varieties of insanity that are met with in connection with epilepsy, that there may occur, in place of the usual epileptic fits, an attack of acute mania, or of dangerous moral insanity, the insanity really being a masked epilepsy. This vicarious manifestation of convulsion was noticed long ago by Dr. Darwin in his 'Zoonomia,' and has recently been insisted upon by M. Morel. The case above mentioned may, I think, be held to establish the probability that acute dementia sometimes occurs as a masked epilepsy.

"Again, after certain diseases, as typhoid and typhus fevers, pneumonia, acute rheumatism, insanity sometimes follows, taking usually in such case the form either of delirium or of acute dementia, according seemingly to the degree of shock which the nervous system has undergone. So occurring, acute dementia may easily be recognised. But it is sometimes brought on suddenly by a great moral shock, and it now and then undoubtedly occurs to young men and women as a primary disease, of unknown causation, though apparently connected in some way with disturbed sexual functions."

Dr. Maudsley concludes by asking—

"*What are their differential features, so far as recognisable? As a matter of fact, an instinct, which cannot be analysed and plainly expounded in words, commonly guides the decision in a particular case. The historical development of the disease should be carefully weighed, and close attention given to its outward and visible characters, and especially to any variations in its course. The expression of the melancholic is that of one astonished, or as if fixed in a painful trance,—the mind veiled, as it were by a great cloud, let down beneath it and the external world; the patient stands or sits in one place, or moves slowly to and fro; he often offers a passive resistance to being removed from one place to another, or to being fed; sometimes he exhibits a strong tendency to suicide, and at times a temporary excitement; on recovery, he remembers his suffering as a painful dream, and that he was dimly conscious, perhaps, during it of what was going on around, but could not speak nor make known his state, so completely was he cut off from the external world. In dementia, the countenance is expressionless; there is no resistance offered to being moved; the patient passively takes food when it is given to him; he is not suicidal; any excitement which occurs is of a very confused and aimless character; and on recovery there is no remembrance of what has happened during the attack.*

"*The prognosis in melancholia attonita is favourable; but it becomes very unfavourable if recovery does not take place within a few months, the disease then passing into chronic incurable dementia.*"

On Insanity caused by Injuries to the Head and by Sunstroke. By
FRANCIS SKAE, M.D. Edin.

(‘Edinburgh Medical Journal,’ February, 1866.)

THIS article, by Dr. Francis Skae, the son of the respected Superintendent of the Royal Edinburgh Asylum at Morningside, was read before the Medico-Chirurgical Society of Edinburgh in January. Its avowed object is to “illustrate the characteristic features, and to describe the usual course and termination, of insanity caused by sunstroke and by injuries to the head; and the main conclusion at which Dr. Skae arrives is, that “insanity caused by sunstroke, and insanity caused by a fall or blow on the head, closely resemble each other, and possess some important features in common.” Both he considers to be due to “chronic hyperæmia of the brain and its membranes;” and he classifies them together under the term “Traumatic Insanity.”

He then points out that although insanity is often an immediate result of sunstroke or a blow on the head, it is more frequently a remote consequence, “months, or in some cases years, elapsing between the receipt of the injury and the appearance of the insanity.

But few authors, says Dr. F. Skae, excepting Esquirol and Prichard, have “made more than a passing allusion to this physical cause of insanity;” although, as he justly owns, but few psychological physicians can have failed to have noticed it.

Dr. F. Skae does not mention, however, what has been remarked upon by some other writers, Drs. Bucknill and Robertson amongst the number, that a blow on the head has been known to produce sanity in a patient previously of unsound mind.

Ten very interesting cases are then recorded—six of insanity caused by a blow or injury to the head, and four of insanity supervening on *coup de soleil*.

Esquirol, out of 710 cases due to physical causes, gives sixteen as occurring from sunstroke; and thirteen such cases were admitted into Bethlehem Hospital from 1846 to 1860 inclusive; from which it may be presumed that *coup de soleil* is not a very prolific cause of insanity, although occurring with sufficient frequency to deserve notice.

Dr. F. Skae thus terminates his paper:

“From a careful consideration of the history of all the cases whose symptoms and results are given above, from observations of the characters and progress of many such cases, and from a review of the most constant pathological appearances, I am led to the following conclusions:—

"1st. That traumatic insanity is generally characterised at its commencement by maniacal excitement, varying in intensity and duration.

2nd. "That the excitement is succeeded by a chronic condition, often lasting many years, during which the patient is *irritable, suspicious, and dangerous* to others.

"3rd. That in many such cases distinct homicidal impulse exists.

"4th. That the characteristic delusions of this form of insanity are those of *pride, self-esteem, and suspicion*, melancholia being very rarely present.

5th. "That this form of insanity is rarely recovered from, but has a tendency to pass into *dementia*, and to terminate fatally by brain disease.

"6th. That the symptoms, progress, and termination of insanity resulting from traumatic causes are sufficiently distinctive and characteristic to entitle it to be considered a distinct form of insanity."

PART IV.—NOTES AND NEWS.

The Asylums of Sweden.

WE are indebted to our correspondent Dr. Ernst Salomon, medical superintendent of the asylum at Malmö, for an interesting letter on the condition of the insane in Sweden.

The following table gives a summary of the numbers under treatment and of the different forms of insanity in the Swedish asylums during the year 1863.

NAME OF ASYLUM.	Mania.	Melancholia.	Ecnolia.	Paranoia.	Dementia.	Idiocy.	General Paresis.	Epilepsia.
Hernösands (<i>the most northerly situated asylum</i>)	28	21	1	12	19	9	—	—
Upsala	40	34	14	22	17	21	2	14
Stockholm	63	70	17	24	18	5	8	6
Nyköping	5	11	2	14	19	9	—	4
Wadstena	51	35	40	41	60	82	1	38
Wexiö	28	24	18	19	54	15	—	9
Göteborg	25	24	1	5	9	14	1	4
Malmö	83	64	9	2	36	10	—	12
Wisby	7	5	1	1	—	1	—	2
Total .	1360							

In 1862 the total number of patients was 1304, showing an increase of 56 during the year 1863.

Of the 1360 patients under treatment during the year 1863, 130 were discharged cured, and 71 died. The mean number resident was 1079.

The following extract from Dr. Salomon's letter gives an interesting account of the treatment at Malmö. It may be instructive for our French colleagues to note that Dr. Salomon has for two years entirely given up the use of all forms of restraint, and has adopted in his practice the English non-restraint system, which he studied so diligently during his visit to this country:—

“My treatment at Malmö is partly pharmaceutical and partly moral treatment. For the drug-treatment is the tonic-treatment principle. Iron and quinine are much in use; opium and frangula is very often had recourse to. Calomel I use when a case of acute mania is beginning to get chronic. In two cases I saw complete recovery at the same time as the operative effects did show themselves. Camphor and arnica I don't use any more, because I have found them useless.

“Instead of digitalis in acute mania (which you like very much), I only use prolonged tepid baths, during one, six, or twelve hours. Padded rooms are in use when the patients are apt to hurt themselves against the walls. To keep up the spirits among the chronic cases (mental invalids), the social intercourse has been promoted so much as possible, through work in common and general amusements, and through gymnastics and drilling, whereby the one is learned to help the other; and hereby the sickly egoism has in some measure been diminished. During the last two years no case of corporeal (bodily) restraint has occurred in Malmö Asylum. The only sort of restraint here in use is seclusion. The old strait-waistcoat is quite done away with; and, except for some special surgical case, there can't be any use for this old, dull instrument.”

The Annual Reports of the County Asylums.

The treatment of insanity is by the nature of the disease so distinct a specialty, that even those who object most to the multiplication of specialties in medicine are compelled to make an exception in its favour. At one time the care of the insane was almost entirely in the hands of keepers of asylums who were not medical men. The exposure of the great abuses perpetrated, the weight of the influence of the Commissioners in Lunacy, and the modern scientific views of the nature of insanity, have combined to throw the care of the insane almost entirely into the hands of medical men. Scientific investigation of mental diseases, and great and beneficial reforms in their treatment, have been the happy results of the revolution. But as the treatment of insanity thus came to the profession from without—was, as it were, imposed upon it, not solicited by it—those engaged in this department of practice have stood very much apart, and their work has scarcely been sufficiently known. The extreme separation has not been without injury both to the profession and to the specialty: the former, though not unscathed by the scandals which have from time to time occurred and excited popular prejudice against the mad doctors, has suffered more, perhaps, by the entire neglect of the scientific study of the functions, healthy and morbid, of the noblest organ in man; the latter, already weighted with an inherited odium, has been further damaged in public estimation, and has had its scientific development hindered, by its too great isolation. Though it is most necessary that there should be men engaged in special researches in a limited department where the field of labour is vast, and though it is unavoidable that specialties of art or practice must follow in the social division of labour, yet it is most certain that with specialisation there must, in the social as in the physiological organism, be at the same time due co-ordination or integration of parts; for no branch of science or practice can

flourish when completely cut off from the rest. Isolation in such case means speedy degeneration and final death.

There are many signs that the too-marked line of separation between the medico-psychological specialty and the rest of the profession is disappearing. The London University, foiled in its laudable desire to make compulsory regulations for ensuring a clinical knowledge of insanity solely by reason of the want of opportunities of clinical study, has still, in its last Calendar, specially directed the attention of candidates to the importance which it attaches to the subject, and now accepts three months' attendance in an asylum in place of three months' hospital practice. Two of the medical schools have also instituted lectures on mental diseases. On the other hand, those who are specially engaged in the study and treatment of mental disease are exhibiting considerable scientific activity, and are bringing forth results which, on one side, are important contributions to the physiology and pathology of the higher nervous centres, and, on the other side, are dangerously undermining metaphysical philosophy.

The reports of the county asylums, which we receive in great numbers about this time of the year, though satisfactory as proving how much is now done for the insane pauper, do not give much scientific information, but rather indicate what a vast quantity of valuable material for scientific study now lies unused in our numerous public asylums. So far as these reports are addressed to the visitors of the asylums, it may, perhaps, be deemed more proper to enter into matters of domestic economy than to discuss medical questions; but there can be no good reason why the numerous statistical tables contained in all of them, and professing to record the admissions, discharges, recoveries, and deaths—the form, cause, and duration of the disease, and like interesting information, should not be so framed as to be of some scientific use. They are certainly, as now framed, idle labour; there is not uniformity between the elaborate tables of different reports, and the tables of the same report fail to give any continuous history of the experience of the asylum, which alone would be of real value; they mostly give only the semblance of information. And yet at the last meeting of the Medico-Psychological Association a committee presented a system of tables as a proposed uniform plan of asylum statistics, which was unanimously adopted by the meeting, and published in the 'Journal of Mental Science.' Cannot the Commissioners in Lunacy do something towards enforcing such a uniform system of statistics, the neglect of which is so lamentable at present, and the adoption of which would be of great scientific value? We might then, instead of having vague discussions as to whether insanity is increasing or not, obtain some positive facts on which to found a reliable conclusion. Perhaps the Commissioners are not entirely free from responsibility for the present state of things. From the tenor of their reports on the different asylums, it would seem to be an inevitable tendency of these to make the medical officer sink science in economics—to make him lose his character as physician, or healer of disease, in his function as house-steward or keeper of lunatics. This is not a desirable transformation, and if it should be accepted as the right aim to have in view, the mischievous separation between the medico-psychological specialty and the rest of the profession cannot but become still wider. It were better, perhaps, that the insane were not under medical care than that medical care should lose its scientific character. It were better still that those who are engaged in this branch of practice, and who have done so much for the humane treatment of the insane, should, while still maintaining the efficient organisation of the asylums which they superintend, give their earnest energy to the scientific cultivation of the wide, but waste, field lying around them. No department of medical science promises to repay culture better.—*The Lancet*, April 28.

Sir Thomas Watson's Tribute to the Memory of the late Dr. Conolly.

The name of Conolly will float further down the stream of time than that of Southey or of Ferguson. I am not aware of any book of which Dr. Southey was the author. The best, probably, of Dr. Ferguson's writings—and he wrote well—are entombed among the perishing records of periodical literature. Some of Dr. Conolly's works, especially those on his favourite subject—Insanity, deserve, and will, perhaps, obtain a more enduring reputation and currency. There was a pleasing harmony between his aspect and manners, which were gentle and engaging—his oratory, which was easy, copious, elegant, and persuasive—and his written style, which was correct, refined, and graceful, with the weakening fault, perhaps, of being somewhat diffuse. But his renown will rest, and his name will go down to a late posterity, upon his having been the first and foremost in redressing and abolishing that hideous neglect, those cruel methods of restraint, and even torture, which had been the scandal of our land, in respect of the treatment of the insane. He showed, not merely by eloquent and pathetic reasoning, but by the testimony of undeniable facts, that most of the shackles and privations which had been imposed upon those unhappy beings were unnecessary and hurtful, and that their release from needless bodily misery and degradation tended more than any other thing to restore, or when restoration was impossible, to improve, their mental health. The spirit of John Conolly was congenial with the spirit of John Howard; and their noble example has left behind them, and encouraged, a similar spirit, which is actively and widely at work in this nation. We cannot have a better instance of this than is afforded by the efforts even now being made for improving the condition of the sick poor in our workhouses and their infirmaries: efforts which, we may be proud to remember, have been set on foot, and are mainly sustained, by members of our own profession.—*The Annual Address of the President of the Royal College of Physicians, 1866.*

Professor Huxley on the Effect of the Improvement of Natural Knowledge on the Progress of Mental Science.

We may now consider, what has been the effect of the improvement of natural knowledge on the views of men who have begun to cultivate natural knowledge with no desire but that of "increasing God's honour and bettering man's estate."

For example: what could seem wiser, from a mere material point of view, more innocent from a theological one, to an ancient people, than that they should learn the exact succession of the seasons, as warnings for the husbandmen; or the position of the stars, as guides to their rude navigators? But what has grown out of this search for natural knowledge of so merely useful a character? You all know the reply. Astronomy,—which of all sciences has filled men's minds with general ideas of a character most foreign to their daily experience, and has more than any other rendered it impossible for them to accept the beliefs of their fathers;—Astronomy, which tells them that this so vast and seemingly solid earth is but an atom among atoms, whirling, no man knows whither, through illimitable space; which demonstrates that what we call the peaceful heaven above us, is but that space, filled by an infinitely subtle matter, whose particles are seething and surging,

like the waves of an angry sea ; which opens up to us infinite regions where nothing is known, or ever seems to have been known, but matter and force, operating according to rigid rules ; which leads us to contemplate phenomena the very nature of which demonstrates that they must have had a beginning, and that they must have an end, but the very nature of which also proves that the beginning was, to our conceptions, infinitely remote, and that the end is as immeasurably distant.

But it is not alone those who pursue astronomy who ask for bread and receive ideas. What more harmless than the attempt to lift and distribute water by pumping it ; what more absolutely and grossly utilitarian ? But out of pumps grew the discussions about nature's abhorrence of a vacuum ; and then it was discovered that nature does not abhor a vacuum, but that air has weight ; and that notion paved the way for the doctrine that all matter has weight, and that the force which produces weight is co-extensive with the universe,—in short, to the theory of universal gravitation and endless force. And learning how to handle gases led to the discovery of oxygen and to modern chemistry, and to the notion of the indestructibility of matter.

Again, what simpler, or more absolutely practical, than the attempt to keep the axle of a wheel from heating when the wheel turns round very fast ? How useful for carters and gig-drivers to know something about this ! and how good were it, if any ingenious person would find out the cause of such phenomena, and thence educe a general remedy for them ! Such an ingenious person was Count Rumford ; and he and his successors have landed us in the theory of the persistence or indestructibility of force. And in the infinitely minute, as in the infinitely great, the seekers after natural knowledge, of the kinds called physical and chemical, have everywhere found a definite order and succession of events which seem never to be infringed.

And how has it fared with "Physick" and Anatomy ? Have the anatomist, the physiologist, or the physician, whose business it has been to devote themselves assiduously to that eminently practical and direct end, the alleviation of the sufferings of mankind,—have they been able to confine their vision more absolutely to the strictly useful ? I fear they are the worst offenders of all. For if the astronomer has set before us the infinite magnitude of space, the practical eternity of duration of the universe ; if the physical and chemical philosophers have demonstrated the infinite minuteness of its constituent parts, and the practical eternity of matter and of force ; and if both have alike proclaimed the universality of a definite and predicable order and succession of events,—the workers in biology have not only accepted all these, but added more startling theses of their own. For as the astronomers discover in the earth no centre of the universe, but an eccentric speck, so the naturalists find man to be no centre of the living world, but one amidst endless modifications of life ; and as the astronomer observes the mark of practically endless time set upon the arrangements of the solar system, so the student of life finds the records of ancient forms of existence peopling the world for ages, which, in relation to human experience, are infinite.

Furthermore, the physiologist finds life to be as dependent for its manifestation on particular molecular arrangements as any physical or chemical phenomenon ; and, wherever he extends his researches, fixed order and unchanging causation reveal themselves, as plainly as in the rest of nature.

Nor can I find that any other fate has awaited the germ of Religion. Arising, like all other kinds of knowledge, out of the action and interaction of man's mind, with that which is not man's mind, it has taken the intellectual

coverings of Fetishism or Polytheism; of Theism or Atheism; of Superstition or Rationalism. With these, and their relative merits and demerits, I have nothing to do; but this it is needful for my purpose to say, that if the Religion of the present differs from that of the past, it is because the theology of the present has become more scientific than that of the past; because it has not only renounced idols of wood and idols of stone, but begins to see the necessity of breaking in pieces the idols built up of books and traditions and fine-spun ecclesiastical cobwebs, and of cherishing the noblest and most human of man's emotions, by worship "for the most part of the silent sort" at the altar of the Unknown and Unknowable.

Such are a few of the new conceptions implanted in our minds by the improvement of natural knowledge. Men have acquired the ideas of the practically infinite extent of the universe and of its practical eternity; they are familiar with the conception that our earth is but an infinitesimal fragment of that part of the universe which can be seen; and that, nevertheless, its duration is, as compared with our standards of time, infinite. They have further acquired the idea that man is but one of innumerable forms of life now existing in the globe, and that the present existences are but the last of an immeasurable series of predecessors. Furthermore, every step they have made in natural knowledge has tended to extend and rivet in their minds the conception of a definite order of the universe—which is embodied in what are called, by an unhappy metaphor, the laws of nature—and to narrow the range and loosen the force of men's belief in spontaneity, or in changes other than such as arise out of that definite order itself.

Whether these ideas are well or ill-founded is not the question. No one can deny that they exist, and have been the inevitable outgrowth of the improvement of natural knowledge. And if so, it cannot be doubted that they are changing the form of men's most cherished and most important convictions.

And as regards the second point—the extent to which the improvement of natural knowledge has remodelled and altered what may be termed the intellectual ethics of men,—what are among the moral convictions most fondly held by barbarous and semi-barbarous people?

They are the convictions that authority is the soundest basis of belief; that merit attaches to a readiness to believe; that the doubting disposition is a bad one, and scepticism a sin; that when good authority has pronounced what is to be believed, and faith has accepted it, reason has no further duty. There are many excellent persons who yet hold by these principles, and it is not my present business, or intention, to discuss their views. All I wish to bring clearly before your minds is the unquestionable fact that the improvement of natural knowledge is effected by methods which directly give the lie to all these convictions, and assume the exact reverse of each to be true.

The improver of natural knowledge absolutely refuses to acknowledge authority, as such. For him, scepticism is the highest of duties; blind faith the one unpardonable sin. And it cannot be otherwise, for every great advance in natural knowledge has involved the absolute rejection of authority, the cherishing of the keenest scepticism, the annihilation of the spirit of blind faith; and the most ardent votary of science holds his firmest convictions, not because the men he most venerates hold them; not because their verity is testified by portents and wonders; but because his experience teaches him that whenever he chooses to bring these convictions into contact with their primary source, nature—whenever he thinks fit to test them by appealing to experiment and to observation—nature will confirm them. The man of science has learned to believe in justification, not by faith, but by verification.

Thus, without for a moment pretending to despise the practical results of the improvement of natural knowledge, and its beneficial influence on material civilisation, it must, I think, be admitted that the great ideas, some of which I have indicated, and the ethical spirit which I have endeavoured to sketch, in the few moments which remain at my disposal, constitute the real and permanent significance of natural knowledge.

If these ideas be destined, as I believe they are, to be more and more firmly established as the world grows older; if that spirit be fated, as I believe it is, to extend itself into all departments of human thought, and to become coextensive with the range of knowledge; if, as our race approaches its maturity, it discovers, as I believe it will, that there is but one kind of knowledge and but one method of acquiring it; then we, who are still children, may justly feel it our highest duty to recognise the advisableness of improving natural knowledge, and so to aid ourselves and our successors in their course towards the noble goal which lies before mankind.—‘*On the Advisableness of Improving Natural Knowledge.*’ A Lay Sermon, delivered at St. Martin’s Hall, on Sunday, Jan. 7th, 1866.—*The Fortnightly Review.*

Dr. Howden’s Notes on Italian Asylums for the Insane.

1. *Turin.*—The first asylum that I visited was the one at Turin, a large establishment within the city, containing both male and female patients. Looking from the asylum windows, on one side you find the houses of the city directly in front, and only separated from you by the breadth of the street and a narrow bit of ground within the asylum gates. From the windows on the other side you look directly down into a public road, well shaded with trees, and largely frequented by washerwomen, who ply their avocation by the side of what seems little better than a dirty running ditch.

In going through the house I was much surprised at the large number of patients in the infirmary, many of whom wore the strait-jacket, now so generally discarded in this country. The beds, which were wooden and extremely cumbrous, were all filled with straw, which could be changed daily; and to each bed was attached a wooden dish or tray, which acted as a receptacle for all fluid that might find its way through the straw, there being a hole in the bottom of the bed to allow of its escape. The windows were all strongly guarded by iron bars; some of the stairs also were guarded by strong wire fencing carried up to the roof, seemingly to prevent any one from leaping over.

One of the most unpleasant things in the house was the state of the “latrines,” the filth of which was abominable. The patients were evidently allowed to make whatever use they liked of these conveniences, no check being exercised over their filthy habits.

In one of the galleries I found several women busy with the distaff preparing yarn for the spinning-wheel. This gallery, for some reason or other, was lighted entirely by windows near the roof, so that nothing presented itself to the eye of the patient but a large expanse of dead wall, without adornment of any kind. The patients themselves seemed, on the whole, cleanly kept. I was told that a number of them were at a branch establishment in the country, where they could make themselves useful in agricultural operations; here, however, the only opportunity for open-air exercise afforded the patients was to be had in the by no means large airing-courts, which, from the situation of the building, were of necessity surrounded by very high walls.

2. *Venice*.—The next asylum which I visited was one for females, attached to the general hospital at Venice. The number of patients was 350; their condition seemed to me wretched in the extreme. Here were to be seen poor women lying in bed, not only handcuffed, but also with a manacle round one ankle, and firmly fastened to the foot of the bed; chairs also, in which the patients could be confined; strait-jackets, too, the construction of which seemed the same in all asylums, viz., a strong canvass jacket, with very long sleeves, so long that, after the arms of the patient were folded across the chest, the sleeves could be tied behind. There was little or no provision made for open-air exercise, the asylum being simply a portion of the general hospital devoted to this specialty.

The male asylum was a most pleasing contrast to the female one. It occupies the whole of the island of San Servolo, and is conducted by a body of monks. The monkish doctor, in his long gown, seemed delighted to show me everything of interest. Everything appeared perfectly clean and orderly. The number of patients at the time of my visit was 436, rather more than the establishment could well accommodate; that, however, they seemed doing their best to remedy, several new rooms being in process of building. The baths bore no evidence of being constructed with an eye to fastening in the patient, as is too often to be found in foreign asylums; in such cases nothing but the patient's head being visible above-board. I saw nothing in the shape of restraint, and the doctor said it was but rarely had recourse to. One of the few things that conveyed anything like an unpleasant impression to one's mind was the presence of several iron gates between different parts of the house. The gardens and airing-ground were very cheerful and pleasant, with a delightful look-out over the sea and surrounding islands. On one of the neighbouring islands the Government is at present erecting a very large asylum, which, however, I was told would not be completed for several years. There are workshops on the premises for wrights, blacksmiths, and tailors; and out of the 436 patients there were 120 constantly working—a fact which, I think, shows more than anything else how much the brotherhood have the good of their patients at heart. Nor is the necessity for amusement overlooked. There is a good instrumental band formed of patients; and in the church attached to the establishment the organ is played by a patient, and there is also a choir formed of patients. The laboratory, library, &c., were all exceedingly neat and well arranged. The doctor showed me, with considerable pride, a copy of a notice of the asylum, by Dr. Robertson, extracted from the 'Journal of Mental Science.' He handed me his prescription-book, in which I found ordered many of our own most recent and favorite drugs. To conclude, I left the asylum delighted with what I had seen, and much pleased by the courtesy extended to me. I brought away with me two reports printed at the Armenian convent.

3. *Padua*.—The next town I sojourned at after Venice was Padua, where, though there is no special lunatic asylum, two wards of the large general hospital are set aside for lunatic patients. In these wards there were about twenty males and as many females. Out of these forty there were, I think, ten lying in bed with handcuffs or manacles round the ankles, or both; the handcuffs were attached to a broad belt round the waist, the manacle again being fastened to the foot of the bed. Besides these there were others wearing strait-jackets, and with their feet fastened to the foot of the bed by a strong towel. This latter seemed rather a favorite method of restraining patients. I remember well the effect of the towel on one poor patient suffering from pellagra, the skin of the ankle having been chafed and irritated till it had broken out into a large unhealthy sore. Talking of pellagra, I

may mention that the number of patients, both here and at Venice, suffering from that disease was very large. Venice is the head-quarters of all Padua lunatics, of whom there is a larger number in the asylum suffering from pellagra than is sent from any other place, except Treviso and, in some years, Udine. Pellagra seems a disease peculiar to Northern Italy; in fact, it appears to be almost entirely confined to the famous "Quadrilateral." It is not, so far as I know, to be met with either in Florence or Rome. In the Padua wards the patients were shut in by strongly iron-grated doors, with no other accommodation than was afforded by the dormitory, there being no separate day-room.

4. *Bologna*.—The next town in which I found an asylum was Bologna. The asylum is in the outskirts of the town, and contains some 300 patients, male and female. Under the same roof there is an hospital for skin diseases; in fact, the whole building was originally meant for an hospital, and not an asylum. The doors and windows were all, as usual, strongly guarded. I found half a dozen women shut into a little room by means of an open iron-grated gate; the only reason seemingly for their being there was that they had been troublesome, and that this was a convenient way of getting rid of them for the time being. The beds seemed all made with the intention of fastening down the patients if thought necessary, though the resident doctor, who showed me the house, declared that there was little or no restraint; he very frankly, however, admitted the arrangement and construction of the house to be bad. Some of the sanitary arrangements were not nice; the corners of several of the passages seemed the common resort of patients whenever they wish to urinate, consequently the odours were by no means sweet. There were said to be thirteen men and eight women in the house epileptic.

5. *Florence*.—The next asylum which came under my notice was that of Bonifazio, in Florence. It is a large building, and labours under the same disadvantage that many others do, viz., that of being situated in the city, surrounded by houses on all sides, and with no means of getting fresh air except in the very small courts attached to the building. Within the walls are both male and female patients, pauper and paying, in all between 400 and 500.

One great fault that I had to find with several of those asylums was the carelessness of the attendants, who, I think, left the patients too much to do as they felt inclined, and this was very much the case in Florence; patients wandered about passages or lay in bed, as fancy prompted them. One man I found, on going into his bed-room, perched up on the window, some six or seven feet from the ground, his legs dangling through the bars on the other side. Handcuffs, &c., were to be found here as elsewhere; but the form of restraint which reigned pre-eminent was that of chairs, the construction of which is somewhat peculiar, and certainly very effectual. It is formed like a large arm-chair, from the front of which a board slants down to the ground. In this slanting board are two holes. The patient's legs, of necessity, rest on this board, and by means of the two holes they are very effectually strapped down. In addition to this the patient wears a pair of handcuffs, from all which it will be readily seen that there is little chance of much movement. I shall never forget the spectacle that met my eye on entering one of the female wards. Ranged along the wall were half a dozen of these chairs, and in each chair was seated a poor woman, one of them a negress, black as jet. Their clothing was by no means over-abundant. One unfortunate was striving hard to eat a *lump* of bread, which, from the handcuffs being so constructed as to enclose the hands in a leather case, was no easy matter. A

couple of attendants were loitering about the door of the room, which opened into a small court, watching these poor creatures. The number of epileptics in this asylum seemed very considerable, and for such patients the beds were constructed like children's cribs, to prevent their falling out during a fit.

6. *Rome*.—The Roman asylum is a large institution, containing between 400 and 500 patients, the numbers being pretty equally divided between the male and female. The building is situated on the banks of the Tiber, on the same side as, and very near to, the church of St. Peter's. The outside walls were painfully white. This extreme cleanliness, however, was quite borne out by the condition of the interior, which was clean and well kept. The baths were by far the most complete and varied I have seen in any similar institution. Though badly situated, with the river on one side and the public street on the other, large gardens on the hill above have of late years been acquired, access to which is obtained by a covered way over the street. The view from these gardens is very fine. Before you is spread out the vast city, with the Alban hills, &c., in the distance, while closely adjoining is the noble pile of St. Peter's, with its handsome piazza, and fountains in constant play. In the gardens there is a small house for the better class of patients, which, however, at the time of my visit was untenanted. Before the acquisition of those gardens the inmates must have been very much confined, and also, I should suppose, very unhealthy, especially in the summer season.

Sisters of Charity attend upon the female patients, and to their care and attention, I believe, is greatly due the cleanly condition of the inmates, many of whom seemed busily engaged sewing and making clothing of all kinds under the kindly superintendence of those sisters. The wards were, for the most part, large, clean, and airy. The doctor in the Roman asylum seemed to look upon the notion of keeping several hundred patients in one house without ever having recourse to restraint as the most preposterous thing he had ever heard of; in fact, regarded it seemingly as an utter impossibility. There was not the same amount of restraint, however, had recourse to in this asylum that was to be found in many others. I think that, in point of cleanliness and freedom, &c., it ranked next in order to that of San Servolo, though certainly not equal to it.—*Edinburgh Medical Journal*, December, 1865.

Mr. Lecky on the Delusion of Witchcraft.

I have now completed my review of the history of witchcraft, in its relation to the theologies of Rome, of England, and of Geneva. I have shown that its causes are to be sought, not within the narrow circle of doctrines and phenomena that are comprised under the name, but in the general intellectual and religious condition of the ages in which it flourished. I have shown, in other words, that witchcraft resulted, not from isolated circumstances, but from modes of thought; that it grew out of a certain intellectual temperature acting on certain theological tenets, and reflected with almost startling vividness each great intellectual change. Arising amid the ignorance of an early civilisation, it was quickened into an intense life by a theological struggle which allied terrorism with credulity, and it declined under the influence of that great rationalistic movement which, since the seventeenth century, has been on all sides encroaching on theology. I have dwelt upon

the decadence of the superstition at considerable length; for it was at once one of the earliest and one of the most important conquests of the spirit of rationalism. There are very few examples of a change of belief that was so strictly normal, so little accelerated by sectarian passions or individual genius, and therefore so well suited to illustrate the laws of intellectual development. Besides this, the fact that the belief, when realised, was always followed by persecution, enables us to trace its successive stages with more than common accuracy, while the period that has elapsed since its destruction has, in a great measure, removed the subject from the turbid atmosphere of controversy.

It is impossible to leave the history of witchcraft without reflecting how vast an amount of suffering has, in at least this respect, been removed by the progress of a rationalistic civilisation. I know that when we remember the frightful calamities that have from time to time flowed from theological divisions—when we consider the countless martyrs who have perished in the dungeon or at the stake, the millions who have fallen in the religious wars, the elements of almost undying dissension that have been planted in so many noble nations, and have paralysed so many glorious enterprises—the fate of a few thousand innocent persons who were burnt alive seems to sink into comparative insignificance. Yet it is probable that no class of victims endured sufferings so unalloyed and so intense. Not for them the wild fanaticism that nerves the soul against danger, and almost steels the body against torments. Not for them the assurance of a glorious eternity, that has made the martyr look with exultation on the rising flame as on the Elijah's chariot that is to bear his soul to heaven. Not for them the solace of lamenting friends, or the consciousness that their memories would be cherished and honoured by posterity. They die alone, hated and unpitied. They were deemed by all mankind the worst of criminals. Their very kinsmen shrank from them as tainted and accursed.

The superstitions they had imbibed in childhood blending with the illusions of age, and with the horrors of their position, persuaded them, in many cases, that they were indeed the bond-slaves of Satan, and were about to exchange their torments upon earth for an agony that was as excruciating, and was eternal. And besides all this, we have to consider the terrors which the belief must have spread through the people at large; we have to picture the anguish of the mother, as she imagined that it was in the power of one whom she had offended to blast in a moment every object of her affection; we have to conceive, above all, the awful shadow that the dread of accusation must have thrown on the enfeebled faculties of age, and the bitterness it must have added to desertion and to solitude. All these sufferings were the result of a single superstition, which the spirit of rationalism has destroyed.—*History of the Rise and Influence of the Spirit of Rationalism in Europe.* By W. E. H. LECKY, M.A.

Mr. Herman Merivale on the Theories of Positivism.

But, however this may be, no one can well contemplate in earnest these relics of a most curious and refined civilisation, in some respects, perhaps, the most curious and refined which the world has ever seen, and return with satisfaction to the coarse generalisation of the disciples of universal progress in the affairs of humanity, with whose speculations we have been lately surfeited. The feelings which such classical inquiries excite are assuredly more akin to those with which they inspired the proud and melancholy

Leopardi, when he turned from them and from the wealth of conception and nobleness of sentiment with which the ancient world abounded to gaze on that long degradation of subsequent ages, out of which humanity is in truth only now emerging. Very grand, though profoundly sorrowful, are those lines of his, entitled 'Bruto Minoré,' in which he portrays the expiring patriot, not as bewailing his present catastrophe, nor calling on the gods for present revenge, but as brooding, in utter hopelessness of spirit, over "the dark forward and abyss of time"—the Erebus-like blackness of that prospect of coming degeneracy and decay, the trance of ages, into which the human soul was about to fall.

"In peggio
Precipitano i tempi: e mal s'affida
Ai putridi nipoti
L'onor d'egregie menti, e la suprema
De' miseri vendetta."

For the duration of that era of decline was indeed such as we are sufficiently accustomed to measure backwards on historical reflection; but as such, when contemplated as a future, the conception shrinks from with a painful sense of incapacity. Thirteen centuries were to elapse ere the first Italian could stretch his hand across the chasm to the last Roman. As the paradise of cultivation in which those Campanian cities nestled was separated from the fertile aspect of the same region in modern times by a formidable blank of centuries of duration, so was the ancient civilisation from the modern by a similar space of intellectual desert, and in each instance alike the succeeding age can scarcely appreciate its predecessor as a reality.

"Credetne vivum ventura propago,
Cum segetes iterum, cum jam hæc deserta virebunt,
Infra urbes populosque premi."

And yet there are those who persist in cramming us with that dry formula of positivism, that each generation enjoys the "accumulated knowledge" of preceding ones!

Ask those countless millions of Chinese who vegetate, generation after generation, in the vast interior of their empire, apart from all foreign influence, how much of "accumulated knowledge" their community has gathered since the days of Confucius; ask the black nations of the heart of Africa what amount of progress distinguishes them from their ancestors to Herodotus or to Leo Africanus; ask the wretched remnants of tribes which wander over the American wilderness whether their progenitors, the sons of those who came thither over the ocean, were fewer and feebler and more ignorant than they! For those who seek truth and not phrases, "progress," as the term is used in social science, is an attribute, not of mankind, but of the European family alone, and of that family only since the discovery of printing. What that incomparably greatest of all merely human events may have done towards fixing the elements of social improvement, and converting into a permanent advance that which was before only a precarious, oscillatory motion, we need not now consider. It may be that the so-called triumphal march of humanity is now secured from repulse, and that, as some of our latest speculators seem to hold, the powers of nature which we employ will begin of themselves to decay before our capability of employing them abates; and it may be (though this is a still bolder assumption) that moral and intellectual improvement must advance along with material civilisation. But all this, if so, does not annul the melancholy record of pre-

vious periods of torpidity or retreat. It is extremely difficult, no doubt, for us to delineate these periods to ourselves. It seems contrary to our notion of the order which governs the world to admit their reality. But we err in this—from applying to that governing order whose laws appear to be beyond our sphere of research our own limited notions of the expedient and the probable geology dimly reveals to us a succession of uncounted ages, during which this planet, rich as now in all other appliances of nature, was inhabited, and its lavish wealth enjoyed, by none but the lowest animal tribes. Astronomy seems to indicate, at least to the judgment of some of our acutest observers, the probable existence of enormous worlds lighted by the same sun as our own, in which animal life, such as we conceive it, cannot exist at all, or only in its feeblest and most torpid types. These speculations may be rectified by future discoveries. But the lesson which they teach will remain the same—that vast exhibitions of creative power may exist for which our purblind doctrine of final causes can imagine no utility, and can find no place in its scheme of providence. History, by assuring us of the reality and duration of such mournful periods as those above mentioned, only contributes her share to the same great lesson. In our healthy exuberance of life we can hardly conceive a state of chronic political ebb or decline—a state, that is, in which each generation, instead of profiting by the “accumulated knowledge” of its predecessors, lets something of the results of that knowledge drop from its enfeebled grasp, is reduced in numbers, less provided with the external comforts of life, weaker against aggression, poorer in substance, feebler in spirit, inferior in mental acquirements. Nevertheless such periods have been beyond all doubt. The history of the Byzantine Empire furnishes one well known to all, and many such have rolled drearily away in the dimmer ages of early time. But let us take the most familiar and, at the same time, the truest instance of what we mean, and which happens also to be most germane to the matter in hand. Could a modern really do what many a visitor to Pompeii has striven to do in intense eagerness of fancy—could he restore those truncated columns, and repeople those desolate streets, and actually converse with some cultivated contemporary of Pliny and Juvenal, or Cicero and Horace—one can fancy that the feeling on both sides, after the first strangeness of the meeting had been got over, would be one of surprise that two specimens of humanity of such distant origin could have so much in common. In moral and social philosophy, in political speculation, in appreciation of eloquence, literature, art, they would really find themselves—some exceptions apart, which would give zest to the conversation—almost on the same ground. In respect of matters of still more intimate interest—the inner clothing, as it were, of civilised existence in the estimate of physical and mental pursuits, tendencies, weaknesses, pleasures, and pains, and their relation to each other—each would feel that he understood his companion; each would be conscious, as it were, of possessing a key to many of the other’s inmost feelings. This would be partly owing, no doubt, to the circumstance that the ancients have been our tutors, and that much of our mental furniture is derived directly from them; but also, in a great measure, to mere similarity of circumstances, which engenders similarity of ideas. Civilisations so nearly resembling each other, even in many points of minuteness, as those of modern Europe and of the Rome of Cicero or the Athens of Demosthenes, must, from the necessity of the case, have strongly corresponding and mental emotions, and corresponding language wherein to express them.

Now let us alter the picture; let the man of the nineteenth century wake up under the shadow of Winchester or Canterbury cathedrals, such as the Saxons had reared them, and, to give him the best company of the day, let him consort with a baron or an abbot of the time of the Norman conquest.

Except the subject of religion, of which we would not now speak, what single topic could they have in common? Would they not be separated from each other by a barrier as high and strong as any which divides contemporary civilised from savage man? What object (except possibly horses and dogs) could they appreciate together? What points of morals or science or politics, small talk, sentiment, or humour, would suit them both? How could they argue on premises which one would assume as certain and the other would treat with contempt? The mediæval wight would certainly rate the modern at a very different value from his own estimate of himself; and if the modern escaped with a whole skin from the interview, which is greatly to be doubted, he would find his romantic respect for the baron or veneration for the ecclesiastic very little increased. They would be denizens of alien spheres, and would converse in utterly dissonant tongues.

And yet the Norman was our countryman, was nearer to us by many an age than the Roman, and ought to have had over the latter the advantage of the "accumulated knowledge" (had such a thing really existed before the invention of printing) of many an intervening generation. But these were in truth generations of decline, not of advance; a decline often hardly sensible, or arrested for a time, but on the whole prodigious. And if the enthusiastic disciple of progress chooses to count these ebbs as insignificant exceptions to his general theory of flow, let us remember that a space of a thousand years, however unimportant to a geologist, is a considerable fraction of the historical existence of man.

And this, as many have said, though not many truly feel it, is one of the most real advantages of classical study, and one of the charms which make us turn back to it with recurring affection after resultless wanderings in company with the "positivists." He who has imbibed its lessons deeply can hardly find his judgment much affected by those metaphors turned into arguments which pass commonly current, likening the youth, manhood, and old age of the world to those of an individual; nor will he readily adopt the formulas of a recent clever writer of the positive school, that "we may expect to find, in the history of man, each successive age incorporating into itself the substance of the preceding;" and that "this power, whereby the present ever gathers into itself the results of the past, transforms the human race into a colossal man, whose life reaches from the creation to the day of judgment." Classical study made men pedants, after a fashion, two centuries ago; at present its effect is to preserve them from an equally tasteless and less innocent pedantry. By bringing clearly before our view that magnificent phantasma of great communities entombed, and great conceptions buried with them, it weakens the ordinary temptation to overvalue ourselves and our age. It displays to us the vast ocean of moral and intellectual being, such as it really is, subject to æons of rise and fall, and not a steady onward current, continually gaining ground; and, by so doing, administers a reasonable check to that ambitious tendency which elevates but often misleads us—an indiscriminating confidence in the destiny and powers of our species.—*Historical Studies.* By HERMAN MERIVALE.

1. *Excerpta from the Twentieth Report of the Commissioners in Lunacy to the Lord Chancellor, 1866.*

1. *Medical Statistics.*—The importance of adopting in all asylums a uniform system of statistical tables and registers has long been felt by us, and we are glad to find that the subject has recently been again under the consideration of the Medico-Psychological Association, at whose last meeting a committee to whom it had been referred submitted forms of tables which were adopted and recommended for general use. These tables, confined to medical statistics, are simple in form, and only include the main and most important facts required to constitute a basis for more elaborate and detailed information.

The superintendents of most county asylums publish in their annual reports tables more or less elaborate, and containing a large amount of valuable information. While, however, the facts recorded may be identical in many if not most of the reports, the form in which they are recorded varies so greatly that it becomes impossible to tabulate them for the purpose of showing general results.

In any future legislation it would no doubt be desirable, as suggested in the report alluded to, so to revise the present "Registry of Admissions" as to include some of the more important particulars required, in order to obtain correct statistics of insanity. But in the mean time we trust that, with the view of facilitating statistical comparison, the visitors and superintendents of all institutions for the insane will not object to adopt the forms of tables recommended, which will be found in Appendix (I).

Table I gives the numbers of admissions, readmissions, discharges, and deaths, with the average numbers resident during the year; the sexes being distinguished under each head.

Table II gives the same results for the entire period the asylum has been in operation.

Table III furnishes a history of the yearly results of treatment since the opening of the asylum.

The table also embraces a column for the mean population, or average numbers resident in each year. In other columns are shown for each year the proportion of recoveries calculated on the admissions; and the mean annual mortality, or the proportion of deaths, calculated on the average numbers resident. It is of the first importance that these two principal results under asylum treatment, when given, should be calculated on a uniform plan, and according to the methods here pointed out.

Table IV gives a history of each year's admissions; how many, for example, of the patients admitted, say in 1855, have been discharged as cured, how many have died, and how many remain in the asylum in 1865.

The value of this table in regard to the vexed question of the increase of insanity is evident. The table is adopted from the Somerset Asylum Reports.

Table V shows the causes of death classified under appropriate heads. This form is adopted from the Reports of the Commissioners in Lunacy for

Scotland, with some addition and modification. It appears sufficiently detailed for statistical purposes.

Table VI gives the length of residence in the asylum of those discharged recovered, and of those who died during the year.

Uniformity in recording the ages of patients on admission, the duration of the existing attack, and the form of mental disorder under which they labour, is also very desirable; and it is to be hoped that the medical officers of asylums may see the great importance of coming to some agreement upon these points. How far the table of the causes of death may require modification or extension will be a matter for subsequent consideration.

2. TABLE showing the Total Amount of Accommodation in the County and Borough Asylums of England, and the Numbers in Asylum 1st January, 1866.

County or Borough Asylum.	Total Amount of Accommodation for Patients.			Numbers in Asylum 1st January, 1866.		
	Male.	Female.	Total.	Male.	Female.	Total.
Beds, Herts, and Hunts	244	291	535	243	291	534
Bucks	150	200	350	137	164	301
Cambridge and Isle of Ely	150	170	320	140	159	299
Cardmarthen, Cardigan, and Pembroke	106	106	212	60	39	99
Chester	250	250	500	229	245	474
Cornwall	190	220	410	192	208	400
Cumberland and Westmoreland ..	132	108	240	132	107	239
Denbigh, Anglesea, Carnarvon, Flint, and Merioneth.....	200	200	400	147	164	311
Derby.....	175	175	350	171	171	342
Devon.....	281	392	673	284	406	690
Dorset	228	191	419	223	188	411
Durham	180	170	350	197	186	383
Essex	240	335	575	236	318	554
Glamorgan	190	160	350	132	95	227
Gloucester	282	315	597	278	312	590
Hants	279	314	593	275	314	589
Kent	278	369	647	325	430	755
Lancaster, at Lancaster.....	390	450	840	385	451	836
„ Rainhill	310	360	670	301	356	657
„ Prestwich	498	502	1000	467	495	962
Leicester and Rutland	200	210	410	189	202	391
Lincoln	285	285	570	236	266	502
Middlesex, Colney Hatch	830	1215	2045	812	1214	2026
„ Hanwell	651	1092	1743	629	1064	1693
Monmouth, Hereford, Brecon, and Radnor	203	256	459	196	256	452
Norfolk	210	230	440	171	211	382
Northumberland	140	145	285	137	138	275
Notts	207	172	379	163	175	338
Oxford and Berks	222	255	477	220	253	473
Salop and Montgomery	240	240	480	193	229	422
Somerset	250	280	530	225	255	480
Stafford, at Stafford	250	250	500	217	252	469
„ Burntwood	190	60	250	136	59	195
Suffolk	180	220	400	162	211	373
Surrey	415	503	918	413	501	914
Sussex	238	294	532	233	277	510
Warwick.....	190	245	435	181	220	401
Wilts	190	275	465	166	246	412
Worcester	212	340	552	211	329	540
York, North Riding	257	243	500	260	230	490
„ West Riding	540	610	1150	531	593	1124
Birmingham	300	330	630	252	315	567
Bristol	100	100	200	106	103	209
Hull	81	74	155	61	62	123
Northampton General Lunatic Hospital	217	215	432	214	212	426

*Publications Received, 1866.**(Continued from the 'Journal of Mental Science' for April.)*

'On Wakefulness, with an Introductory Chapter on the Physiology of Sleep.' By William A. Hammond, M.D., Fellow of the College of Physicians of Philadelphia, &c. &c., and late Surgeon-General of the United States Army. Crown 8vo, pp. 93. Philadelphia, 1866. London, Trübner and Co.

Dr. Hammond's Essay is divided into four chapters, viz.—I. Introductory—Physiology of Sleep. II. The Pathology of Wakefulness. III. The Exciting Causes of Wakefulness. IV. The Treatment of Wakefulness. The subject is treated with great ability. We shall revert to this essay in our next "Report on American Psychological Literature."

'Lectures on Mental Diseases.' By W. H. O. Sankey, M.D. Lond., Lecturer on Mental Diseases in University College, London. Churchill and Sons, 1866. *See Part II, Reviews.*

'A Manual of Medical Jurisprudence.' By Alfred Swaine Taylor, M.D., F.R.S. Eighth Edition. Churchill and Sons, 1866.

This last edition of Dr. Taylor's admirable 'Manual of Medical Jurisprudence' is carefully kept up to the present date. Nothing can exceed Dr. Taylor's accuracy.

'On some of the Causes and Effects of Valvular Disease of the Heart;' being the Croonian Lectures of the Royal College of Physicians for 1865. By Thomas B. Peacock, M.D., F.R.C.P. Churchill and Sons, 1865.

'Notes on Cholera, its Nature and Treatment.' By George Johnson, M.D. Lond., F.R.C.P.; Honorary Fellow of King's College, London; Professor of Medicine in King's College; Physician to King's College Hospital. Fcap. 8vo, pp. 112. London, 1866.

'The Definition of Murder, considered in relation to the Report of the Capital Punishment Commissioners.' By James FitzJames Stephen, M.A., Barrister-at-Law; Recorder of Newcastle-upon-Trent.

(Reprinted from 'Fraser's Magazine.') Longmans, 1866.

'Inaugural Address, at Edinburgh, April 2, 1866, by Thomas Carlyle, on being installed as Rector of the University there. Edmonston and Doyles, 1866.

'The Harveian Oration,' 1865. By Henry W. Acland, M.D. Oxon, &c. &c. Macmillan and Co., 1865.

'On the Therapeutic Application of the Turkish Bath,' a Paper read at the Brighton Medical Society. By Charles Bryce, M.D. London, the Hamman, 76, Jermyn Street, 1866. (Pamphlet.)

"Touching the BRAIN (writes Dr. Bryce) our respected colleague, Dr. Robertson, after considerable experience, continues to entertain the most favorable opinion of the curative value of the bath in chronic mental diseases, and he reports one instance of acute mania depending on recent smallpox, wherein imme-

diate relief of the maniacal symptoms followed its administration. His experience also embraces cases of melancholia complicated with phthisis, irregularity of uterine functions, and with albuminuria, where the bath was the chief agent in restoring patients to health. The indication of treatment in these and similar morbid states being to regulate the supply of blood to the brain, and so restore the healthy action of the uterus, the skin, and the brain, he prescribes the bath, and finds this remedial agent will, through its determining the blood to the surface, and soothing the nervous system, modify if not cure mental disease."

'On the Curability of Certain Forms of Insanity, Epilepsy, Catalepsy, and Hysteria, in Females.' By Baker Brown, F.R.C.S. Pp. 85. London, 1866.

We much doubt Mr. Baker Brown's so-called cures. Dr. West's letter in the 'Medical Times,' May 26th, and which remains without a reply, places Mr. Baker Brown's method of practice in a very dubious light, to say the least of it and of him, and probably the less said of either may be the best.

'Introductory Lecture on the Opening of the Clinical Course on Nervous and Mental Diseases at the Charité, in Berlin,' 1st May, 1866. By Professor W. Griesinger.

We shall reserve our notice of this able Lecture for our next Report on German Psychological Medicine.

The following Reports of County and District Asylums for the year 1865 have been received.

1. Essex Lunatic Asylum. Report of the Committee of Visitors, the Medical Superintendent, and other papers relating to the Asylum. (D. C. Campbell, M.D., Resident Medical Superintendent; R. B. Gillaud, M.D., Medical Assistant.)

2. Warwick County Lunatic Asylum. Report for the year 1865. (Medical Superintendent, W. H. Parsey, M.D.)

3. Kent County Lunatic Asylum, Barming Heath, Maidstone. 'Thirty-third Year. Nineteenth Annual Report. (Medical Officer and Superintendent, William P. Kirkman, M.D.)

4. Forty-fifth Annual Report of the Directors of the Dundee Royal Asylum for Lunatics, with the Reports of the Medical Superintendent and Treasurer of the Institution. (Medical Superintendent, James Rorie, M.D.)

5. The Asylum for Idiots, Earlswood, Redhill, Surrey. (Resident Physician and Superintendent, J. Langdon H. Down, M.D.)

6. The Tenth Annual Report on the state of the United Lunatic Asylum for the County and Borough of Nottingham, and the fifty-fifth of the original Institution, formerly the General Lunatic Asylum. (Resident Physician and Superintendent, W. Phillimore Stiff, M.B.; Assistant Medical Officer, W. J. Marsh, M.R.C.S.L.)

7. Warneford Asylum, Headington Hill, near Oxford. Thirty-ninth Annual Report of the Committee of Management. (Resident Medical Superintendent, T. Allen, M.R.C.S.)

8. The Seventeenth Annual Report of the North Wales Counties Lunatic Asylum, Denbigh. Two copies. (Resident Medical Superintendent, George Turner Jones, L.R.C.P. Edin.; Assistant Medical Officer, James C. Morris, L.F., P.S.G.)

9. Littlemore Asylum. Superintendent's Report for 1865, with Statistical Tables. (Superintendent, William Ley, Esq.; Clinical Assistant, R. W. Heurtley Sankey, Esq.)

10. Eighth Annual Report of the Committee of Visitors of the Cambridge-shire, Isle of Ely, and Borough of Cambridge Pauper Lunatic Asylum, with Appendices. (Medical Superintendent, G. W. Lawrence, M.D.)

11. Fourth Annual Report of the Cumberland and Westmoreland Lunatic Asylum. (Medical Superintendent, T. S. Clouston, M.D.)

12. Annual Report of the Committee of Visitors of the Surrey Lunatic Asylum. (Medical Superintendent, J. Strange Biggs, M.D.)

13. Fifteenth Annual Report of the Committee of Visitors of the Lunatic Asylum for the Borough of Birmingham, together with the Reports of the Medical Superintendent and Chaplain. (Medical Superintendent, Thomas Green, Esq.)

14. Thirteenth Annual Report of the Killarney District Lunatic Asylum. (Medical Superintendent, M. J. Lalor, M.D.)

15.—Report of the Committee of Visitors of the Joint Counties Asylum, Carmarthen. (Medical Superintendent, Francis Wilton, Esq.)

16.—Report of the Medical Superintendent, with the account of the Treasurer, of the Norfolk Lunatic Asylum. (Medical Superintendent, William C. Hill, M.D.)

17. First Annual Report of the Glamorgan County Lunatic Asylum, Bridgend. (Medical Superintendent, David Fellowlees, M.D.)

18. Clinical Report of the Waterford Asylum for the Insane Poor for the District of the County and City of Waterford. Drawn up by Frederick MacCabe, M.D., Resident Medical Superintendent.)

19. Leicestershire and Rutland Lunatic Asylum. The Seventeenth Annual Report of the United Committee of Visitors. (Medical Superintendent, John Buck, Esq.)

20. Thirteenth Annual Report of the Buckinghamshire County Pauper Lunatic Asylum. (Superintendent, John Humphry, Esq.)

21. Report of the Committee of Visitors, Superintendent, and Chaplain of the Cheshire Lunatic Asylum. (T. N. Brushfield, M.D., Medical Superintendent.)

22. Thirteenth Annual Report of the Omagh District Lunatic Asylum. By the Resident Medical Superintendent, F. T. West, Esq.

23. The Fifteenth Annual Report of the Committee of Visitors of the County Lunatic Asylum at Colney Hatch. (Medical Superintendents—Male Department, Edgar Sheppard, M.D.; Female Department, W. G. Marshall, Esq.)

24. General Report of the Royal Hospitals of Bridewell and Bethlem, and of King Edward's Schools. (Resident Physician, W. Rhys Williams, M.D.; Assistant Medical Officer, H. L. Kempthorne, M.D.)

25. Report of the Parent District Lunatic Asylum, Cloumel. (Resident Medical Superintendent, James Flynn, M.D.)
26. Report of the Committee of Visitors of the Lunatic Asylum for the City and County of Bristol. (Medical Superintendent, H. O. Stephens, M.D.)
27. Report of the County Lunatic Asylum at Rainhill. (Medical Superintendent, Thomas L. Rogers, Esq.)
28. Report of St. Luke's Hospital for Lunatics. (Physicians, Henry Monro, M.D.; William Wood, M.D.; Medical Superintendent, James Ellis, Esq.)
29. Twenty-first Annual Report of the Medical Superintendent of the Lunatic Asylum for the Counties of Salop and Montgomery, and for the Borough of Wenlock. (Medical Superintendent, H. Rooke Ley, Esq.)
30. Forty-sixth Annual Report of the Cornwall Lunatic Asylum. (Medical Superintendent, Richard Adams, Esq.)
31. Report of the County Lunatic Asylum at Prestwich. (Medical Superintendent, J. Holland, F.R.C.S.)
32. County Lunatic Asylum, Stafford. Forty-seventh Report. (Resident Medical Officer and Superintendent, Mark Noble Bower, M.D.; Assistant Medical Officer, William Rayner, Esq.)
33. Broadmoor Criminal Lunatic Asylum. Annual Report. (Superintendent, John Meyer, M.D.)
34. Eighth Annual Report of the Committee of Visitors of the Cambridgeshire, Isle of Ely, and Borough of Cambridge Pauper Lunatic Asylum. (Medical Superintendent, G. W. Lawrence, M.D.)
35. First Annual Report of the Visitors of the Staffordshire Asylum, situate at Burntwood, near Lichfield. (Medical Superintendent, R. A. Davis, M.D.)
36. Fifteenth Annual Report of the Wilts County Asylum, Devizes. (Medical Superintendent, John Thurnam, M.D.; Medical Assistant, J. P. Symes, Esq.)
37. Report of the Committee of Visitors of the County Lunatic Asylum, Hants. (Medical Superintendent, John Manley, M.D.)
38. The Thirteenth Annual Report of the Lincolnshire County Lunatic Asylum at Bracebridge, near Lincoln. (Medical Superintendent, Edward Palmer, M.D.)
39. Kent County Lunatic Asylum, Barming Heath, Maidstone. Thirty-third year. *a.* Nineteenth Annual Report for 1865. *b.* Documents printed by order of the Court of General Sessions of the County of Kent, held on the 9th of January, 1866.

American Reports.

1. Commonwealth of Kentucky, Eastern Lunatic Asylum Report. (Medical Superintendent, W. S. Chipley, M.D.; Assistant-Physician and Treasurer, T. P. Dudley, jun., M.D.)
2. Eighth Annual Report of the Medical Superintendent of the Provincial

Hospital for the Insane, Halifax, Nova Scotia. (Medical Superintendent, James R. De Wolf, M.D. Edin., &c.)

3. State of New York. Twenty-first Annual Report of the Managers of the State Lunatic Asylum for the year 1863. (Medical Superintendent, John P. Gray, M.D.)

4. Annual Report of the Trustees and Superintendent of the State Lunatic Hospital of Pennsylvania. (Superintendent and Physician, John Curwen, M.D.)

5. Reports of the Trustees and Superintendent of the Butler Hospital for the Insane. (Superintendent and Physician, Isaac Ray, M.D.)

Rules of the Medico-Psychological Association.

(Revised at the Annual Meeting, held at the Royal College of Physicians, July 13th, 1865.)

1. *Name.*—That the name of the Association be the "Medico-Psychological Association."

2. *Objects.*—That the objects of this Association be the improvement of asylums and hospitals for the insane; the acquisition and diffusion of a more extended knowledge of insanity and its treatment; and the promotion of a free communication on these subjects between the Members.

3. *Members.*—That the Association consist of medical officers of hospitals and asylums for the insane, public and private, and of legally qualified medical practitioners interested in the treatment of insanity.

4. *Election of Members.*—That the election of Members take place by ballot at the annual meetings, a majority of two thirds of those present being required for the election of each candidate.

5.—*Annual Subscription.*—That each Member pay an annual subscription of one guinea, the subscription to be due in advance on the 1st of July in each year; the accounts to be made up to the 30th of June.

6. *Arrears.*—That any Member in arrear of his subscription more than twelve months after the expiration of the year for which it is due, and more than three months after application by the Treasurer for the same, shall cease to be considered a Member of the Association; provided no reason satisfactory to the annual meeting be assigned for the non-payment of such arrears.

7. *Expulsion.*—That a general or special meeting shall have the power, by a majority of three fourths of those present, to remove from the list of the Association any Member whose name is submitted by the Council with that object.

8.—*Honorary Members.*—That gentlemen, whether of the medical profession or otherwise, who are distinguished by the interest they take in the treatment of the insane, be eligible for election as honorary Members, the election to be by ballot, as in the case of ordinary Members; at least a month's notice having been given of the names to be proposed to the Secretary, who will append them to the circular by which the Annual Meeting is summoned. The recommendation for each honorary Member must be signed by at least six Members of the Association.

9. *Officers.*—That the Officers of the Association consist of a President, Trea-

surer, General Secretary, a Secretary for Scotland, a Secretary for Ireland, an Editor or Editors of the Journal, and two Auditors, who shall be elected at each annual meeting; balloting papers being used in such election for the appointment of President.

10. *President*.—That the President for the year enter on his duties at each annual meeting, and that his successor be appointed before the meeting separates.

11. *Other Officers*.—That the Treasurer and Secretaries, Editor or Editors of the Journal, and one Auditor, be eligible for re-election.

12. *Council*.—That the Officers of the Association, with the President elect, the President of the past year, and eight other Members, do constitute the Council of the Association. The eight ordinary Members shall be appointed by the annual meeting, two of the members retiring by rotation each year, but being eligible for re-election.

13. *Annual Meetings*.—That an annual meeting of the Association be held yearly in July, or the first week of August; such meetings to be called both by advertisement and circular to each Member, giving at least four weeks' notice.

14. *Special Meetings*.—That the President, on the requisition of fifteen Members of the Association, shall have authority to call a special meeting, of which notice shall be given in the usual way, and at which only the question or questions stated in the requisition shall be discussed and determined.

15. *Place of Meeting*.—That the annual meeting be held in London, or, if so agreed at the preceding meeting, in Scotland or Ireland, or in some provincial town or city.

16. *Adjournment of Meetings*.—That the annual or special meetings may be adjourned to a second or third day, if a majority of those present so decide.

17. *Order of Business*.—That after the minutes of the preceding meeting have been read, and the ordinary business transacted, reports from Members appointed to prepare the same, and other papers and communications, shall be received, and free discussion invited on all topics connected with the objects of the Association. Each Member to be allowed to introduce one Visitor at the meeting. A report of the proceedings of each meeting to be published in the Journal of the Association.

18. *Finances and Journal of the Association*.—That after the payment of the ordinary expenses of the Association the surplus funds shall be appropriated in aid of the Journal; the accounts of the Editor or Editors of the said Journal and of the Treasurer of the Association shall be examined by two Auditors, who shall report to each annual meeting. Each ordinary Member of the Association to be entitled to receive the Journal without further payment.

19. *Alteration of Rules*.—That any Member wishing to propose any alteration in or addition to the rules, do give notice of his intention at a previous annual meeting, or two months' notice to the Secretary, who shall inform each Member of the Association of the same, in the circular by which such meeting is called.

The Royal Society.

It is a matter of just pride to all engaged in the practice of psychological medicine that the founder and late Editor of this Journal, Dr. Bucknill, Lord Chancellor's Visitor, was elected at the annual meeting on the 7th June into the Royal Society. The highest scientific honour in England thus rewards the labours of past years devoted to the advancement of "Mental Science" in its relations to mental disease. This recognition of our scientific position has in this instance been conferred on, without question, the first English psychologist.

Appointments.

Office of Commissioners in Lunacy, 19, Whitehall Place, S.W. ;
June 25th.

The Lord Chancellor has appointed John Davies Cleaton, Esq., M.R.C.S., late Superintendent of the West Riding Asylum, to be Commissioner in Lunacy in the room of Samuel Gaskell, Esq., resigned.

We most sincerely congratulate Mr. Cleaton on his well-earned honours. A thorough Medical Superintendent in every sense of the word, we hail his access to the Council Board of the Commissioners as a good omen of future progress.

J. C. Bailey, M.R.C.S., has been appointed Assistant Medical Officer to the Three Counties Asylum, Stotfold, Baldock.

E. P. Davies, M.R.C.S.E., has been appointed Assistant Resident Medical Officer to the Carmarthenshire, Cardiganshire, and Pembrokeshire Joint Lunatic Asylum at Carmarthen.

F. W. Gibson, M.B., has been appointed Assistant Medical Officer to the Broadmoor Criminal Lunatic Asylum, near Wokingham, Berks.

H. L. Kempthorne, M.D. Lond., late House-Physician to King's College Hospital, has been elected Assistant Medical Officer to Bethlehem Hospital.

J. C. Morris, L.F.P. and S. Glas., has been appointed Assistant Medical Officer at the North Wales Counties Lunatic Asylum, Denbigh.

W. H. Octavius Sankey, M.D. Lond., has been appointed Lecturer on Mental Diseases in University College, London.

W. Peirce, M.D., has been appointed second Assistant Medical Officer to the Dorset County Lunatic Asylum, Dorchester.

W. H. Reed, M.R.C.S.E., has been appointed Assistant Medical Officer to the Derby County Asylum.

S. W. D. Williams, M.D. St And., has been appointed Assistant Medical Officer to the Sussex County Lunatic Asylum, Hayward's Heath.

Obituary.

SIR ALEXANDER MORISON. M.D.

SCARCELY had the grave closed over the remains of Dr. Conolly, than the hand of death fell upon another distinguished physician in the treatment of the insane. Sir Alexander Morison, M.D., died on the 14th March, at the ad-

vanced age of eighty-seven years. He was born at Anchorfield, near Edinburgh, 1st of May, 1779. He was at the High School of Edinburgh, in the same class with Lord Brougham. He took the diploma of Surgeon in 1798, and in the following year the degree of Doctor in Medicine in the University of Edinburgh. He became a Licentiate of the Royal College of Physicians of London, 1808, but it was not till 1841 that he obtained the rank of Fellow of that College. After his removal to London, he was appointed, in 1816, Physician in Ordinary to the late Princess Charlotte, which office he retained after her marriage with Prince Leopold. In 1832 he was appointed Consulting Physician to the Asylum at Hanwell, and Visiting Physician to the Surrey County Lunatic Asylum. He was afterwards elected Physician to the Royal Hospitals of Bethlehem and Bridewell, and in 1838 received the honour of knighthood. He died in the parish of Currie Balerno, Scotland, retaining his faculties to the last moment of his life.

If Sir Alexander Morison has not left so brilliant a name behind as Dr. John Conolly, he, nevertheless, did good service in the cause of the insane. He gave courses of lectures on insanity, both in Edinburgh and in London, and two years since instituted an annual course of six lectures on mental diseases, under the direction of the Royal College of Physicians of Edinburgh, the first course of which was given in Physician's Hall last summer by Dr. Seller, appointed by him the first lecturer.

As an author he is chiefly known by his work entitled 'The Physiognomy of Mental Diseases,' a valuable book, in which, along with descriptions of the various forms of deprivation of mind, are illustrative portraits from drawings by eminent artists taken from patients in the several institutions with which he was connected.

In person Sir A. Morison was tall and thin, with features rather expressive of kindness and benevolence than of great mental power. He was greatly beloved by his patients, and respected by his medical brethren.

He has left a widow and several daughters, his sons having died during his lifetime.—*The Lancet*.

Notice to Correspondents.

English books for review, pamphlets, exchange journals, &c., to be sent either by book-post to Dr. Robertson, Hayward's Heath, Sussex; or to the care of the publishers of the Journal, Messrs. Churchill and Sons, New Burlington Street. French, German, and American publications may be forwarded to Dr. Robertson, by foreign book-post, or to Messrs. Williams and Norgate, Henrietta Street, Covent Garden, to the care of their German, French, and American agents, Mr. Hartmann, Leipzig; M. Borrari, 9, Rue de St. Pères, Paris; Messrs. Westermann and Co., Broadway, New York.

The copies of *The Journal of Mental Science* are regularly sent by *Book-post* (*prepaid*) to the ordinary Members of the Association, and to our Home and Foreign Correspondents, and we shall be glad to be informed of any irregularity in their receipt or over-charge in the Postage.

Authors of Original Papers wishing *Reprints* for private circulation can have them on application to the Printer of the Journal, Mr. Adlard, Bartholomew Close, E.C., at a fixed charge of 37s. 6d. per sheet per 100 copies, including a coloured wrapper and title-page.

The following *EXCHANGE JOURNALS* have been regularly received since our last publication:

The *Annales Médico-Psychologiques*; the *Zeitschrift für Psychiatrie*; the *Correspondenz Blatt der deutschen Gesellschaft für Psychiatrie*; *Archiv für Psychiatrie*; the *Irren Freund*; *Journal de Médecine Mentale*; *Archivio Italiano per le Malattie Nervose e per le Alienazioni Mentali*; *Medicinische Ahrenlese*; *Medizinische Jahrbücher*; *Zeitschrift der K. K. Gesellschaft der Aerzte in Wien*; the *Edinburgh Medical Journal*; the *American Journal of Insanity*; the *British and Foreign Medico-Chirurgical Review*; the *Dublin Quarterly Journal*; the *Medical Mirror*; the *Social Science Review*; the *Ophthalmic Review: a Quarterly Journal of Ophthalmic Surgery and Science*; the *British Medical Journal*; the *Medical Circular*; and the *Journal of the Society of Arts*; also the *Morningside Mirror*; the *York Star and Excelsior*; the *Murray Royal Institution Literary Gazette*.

The Editors of the 'American Journal of Insanity.'—Letter of the 10th February received. As there is a difficulty in our obtaining the 'American Journal of Insanity' otherwise than through Messrs. Westermann and Co., we shall feel much obliged if you will continue to supply us with an exchange copy through this house. Our copies reach us regularly, though rather late, perhaps. We have received the January number on the 1st of June.

We extremely regret that a continued press of matter obliges us to defer till our next number the publication of Dr. Mackenzie Bacon's paper on "Consanguinity."

Dr. Buzzard, 12, Green Street, Grosvenor Square, requests us to state that he is engaged on an inquiry into the influence of railway accidents on the nervous system; and that he will feel obliged by any member of the Association favouring him with his experience of the influence of such accidents in causing mental disease.

ERRATA.

The reader is requested to correct the following errata in Dr. Thurnam's paper "On the Weight of the Brain," &c., in our last number.

Page 6, l. 15, for "354 cases," read 254 cases.

Page 6, note †, last line, for "(See p. 636)," read (See p. 15).

Page 31, l. 22, for "(64.5 oz.)," read (63.5 oz.).

Page 32, note †, *dele* "unsatisfactory."

Page 41, note, last line, for "tables and averages," read *totals and averages*.

The Medico-Psychological Association.

AGENDA FOR THE ANNUAL MEETING, 1866.

THE ANNUAL GENERAL MEETING

WILL BE HELD AT

THE ROOMS OF THE ROYAL SOCIETY,
PRINCES STREET, EDINBURGH,

ON TUESDAY, JULY 31st, 1866,

UNDER THE PRESIDENCY OF W. A. F. BROWNE, Esq.,
*Commissioner in Lunacy for Scotland; formerly Medical Superintendent,
Crickton Institution, Dumfries.*

I. MEETING OF THE GENERAL COMMITTEE, at 11 a.m.

II. MORNING MEETING OF THE ASSOCIATION, at 12.30 p.m.

1. Address by W. A. F. BROWNE, Esq., President.
2. General Business of the Association.
3. The following Resolutions will be proposed :
 1. "That a Diploma of Membership should be lithographed for Members and Honorary Members, to be presented to them on their election," by HARRINGTON TUKE, M.D.
 2. "That the Committee on Asylum Statistics be reappointed, with the view of furthering the adoption of a uniform system of Statistics in the Annual Reports of the Public Asylums of Great Britain and Ireland," by LOCKHART ROBERTSON, M.D.

III. AFTERNOON MEETING, at 2.30 p.m.

The following papers will be read :

1. *The Insane Colony of Gheel Revisited.* By JOHN WEBSTER, M.D., F.R.S.
2. *The Effects of the present System of Prison Discipline on the Body and Mind.*
By J. B. THOMSON, Esq.
3. *The Pathology of Aphasia.* By ALEXANDER ROBERTSON, M.D.
4. *Asylum Architecture (with plans).* By LOCKHART ROBERTSON, M.D.

The following gentlemen will be proposed as Honorary Members of the Association :

The Hon. W. Spring Rice.	W. Seller, M.D., F.R.C.P. Edin.
Sir James Young Simpson, Bart., M.D.	H. Laehr, M.D., Berlin.

The Members of the Association and their Friends will hold their ANNUAL DINNER at Staney's Hotel, St. Andrew's Square, at 7.30 p.m.

Members of the Profession desirous of admission into the Association are requested to communicate with the Honorary Secretary.

HARRINGTON TUKE, M.D.,

37, ALBEMARLE STREET, W. ;
25th June, 1866.

Honorary Secretary.

THE
MEDICO-PSYCHOLOGICAL ASSOCIATION,

THE COUNCIL, 1865—6.

PRESIDENT.—WILLIAM WOOD, M.D.

PRESIDENT ELECT.—W. A. F. BROWNE, M.D.

EX-PRESIDENT.—HENRY MONRO, M.D.

TREASURER.—JOHN H. PAUL, M.D.

EDITORS OF JOURNAL. { C. L. ROBERTSON, M.D.
 { HENRY MAUDSLEY, M.D.

AUDITORS. { HEURTLEY SANKEY, Esq.
 { EDGAR SHEPPARD, M.D.

HON. SECRETARY FOR IRELAND.—ROBERT STEWART, M.D.

HON. SECRETARY FOR SCOTLAND.—JAMES RORIE, M.D.

GENERAL SECRETARY.—HARRINGTON TUKE, M.D.

JAMES F. DUNCAN, M.D.

ROBERT BOYD, M.D.

JAMES G. DAVEY, M.D.

JOHN SIBBALD, M.D.

SIR CHARLES HASTINGS, M.D., D.C.L.

JOHN HITCHMAN, M.D.

JOHN THURNAM, M.D.

Members of the Association.

RICHARD ADAMS, L.R.C.P. Edin., M.R.C.S. Eng., Medical Superintendent, County Asylum, Bodmin, Cornwall.

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G. MACKENZIE BACON, M.D. St. And., M.R.C.S. Eng., Assistant Medical Officer, County Asylum, Fulbourn, near Cambridge.

SAMUEL GLOVER BAKEWELL, M.D. Edin., Church Stretton, Salop (late Oulton House Retreat).

M. BAILLARGER, M.D., Member of the Academy of Medicine, Visiting Physician to the Asylum La Salpêtrière; 7, Rue de l'Université, Paris. (*Honorary Member.*)

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CHARLES BERREL, Esq., M.R.C.S. Eng., Assistant Medical Officer, County Asylum, Warwick.

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- JAMES FOULIS DUNCAN, M.D. Trin. Col., Dub., L.R.K. and Q.C.P. Ireland Visiting Physician, Farnham House, Finglas; 19, Gardiner's Place, Dublin.
- JAMES DUNCAN, M.D. Lic. Med. Dub., L.R.C.S. Edin.; 39, Marlborough Street, Dublin, and Farnham House, Finglas.
- NUGENT B. DUNCAN, M.B. Trin. Col., Dub., F.R.C.S. Ireland; 39, Marlborough Street, Dublin, and Farnham House, Finglas.
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- GEORGE ROBINSON**, M.D. St. And., F.R.C.P. Lond., 26, Welbeck St., Cavendish Sq.
- WILLIAM FRANCIS ROGAN**, M.D. Trin. Coll., Dubl., L.R.C.S. Edin., Resident Physician, District Asylum, Londonderry.
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PART I.—ORIGINAL ARTICLES.

Address ; on Medico-Psychology. By W. A. F. BROWNE,
Commissioner in Lunacy for Scotland.

(Read by the President at the Annual Meeting of the Medico-Psychological Association, held at Edinburgh, July 31st, 1866.)

THIS is the first occasion upon which we have assembled under the title of the Medico-Psychological Association. The event appears to me auspicious both as inaugurating a more correct designation, and as pointing to a wider and more legitimate destiny. We can no longer be mistaken for a mere friendly club or a mutual defence society. We may now claim as among our objects the investigation of *all* subjects bearing upon the science of mind in connection with health and disease, as well as those which affect our personal interests or the interests of those committed to our charge.

We claim even a wider, almost a universal range for the science of Medico-Psychology, and we claim for it a distinct position in science. The difficulty is to assign and to restrain it within limits. The multiform phases of actual insanity will be confessed by all to fall legitimately within its province. The still larger and more proteiform affections, unequivocally morbid, but compatible with such an amount of health and work-a-day self-control as neither to violate law, nor decorum nor delicacy, may be tacitly conceded, and, at a certain stage, naturally and inevitably come within the same category. But it is held to be a corollary of the definition of medico-psychology now accepted, that all physical diseases, all changes in structure, have a psychical, and often a morbid psychical side ; that to overlook the mental condition of

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the fever- or consumption-stricken patient because the disease is corporeal, would be as absurd as to disregard the bodily condition of the melancholic or of the general paralytic because the disease is mental.

It would not be enough, according to this estimate, for the psychologist to interpret delirium as an indication of cerebral disturbance, to allay fear or to sympathise with suffering—acts which might be performed by the humane and the uneducated ; but it would be incumbent to connect the special mental condition with the particular changes going on in the organisation, to employ the mind as a medium of treatment, or, conversely, to act through the body upon the mind—and, in short, to embrace all the phenomena presented, and precisely in the same manner, as if they were of equal importance or demanded the same consideration.

A glance of the idiotic, imbecile, backward, hebete, criminal portions of our population will infallibly suggest the advantages of bringing such views to bear upon the education and training of the young, to such an extent, at least, as that the attempts to impart knowledge should be in harmony with the laws of health, and with the temper and temperament of the individual as affected by structure. For in the errors of education may lurk the poison which grows into insanity or eccentricity, and, in like manner, into sound training may be introduced the preservative against eventual latent mental incapacity.

The conservative mission of our science in anticipating, preventing, and modifying mental maladies is hitherto an unworked, and, it is matter for regret, a neglected problem. The laws of *hérédité*, moral and intellectual degeneration, and of intermarriage, constitute a science in themselves ; and, perhaps, contain the basis of the future development and utility of prophylactic medicine. The importance of due attention to transmitted tendencies, not merely in connection with alienation, but with character and conduct, where no open interference of medicine or law could be thought of, and with other affections which are not brought within our cognisance, illustrate the usefulness of such an application of our science. There is a vast class of instances of mental unsoundness, perversity, obliquity, extravagance, which place the sufferer at nearly an equal distance from health and disease, from insanity and crime, and which, undoubtedly, depend upon physical causes, tend to modify other forms of disease, are the sources of incalculable social, domestic, and personal evil, and may originate the pronounced and palpable instances of alienation. The same observation applies when epidemics of mental disease, of theomania, or of suicidal impulse, arise, and even *now* agitate large communities, in the broad, bright sunshine of modern intelligence, and in what are styled, it may be ironically, the centres of civilisation. It

cannot be doubted that the ravages of such moral plagues, although, like cholera or fever, they may select their victims from the predisposed and susceptible, must owe their origin to some common cause or causes, it may be political or religious commotion or excitement, or imitation, or social conditions, or atmospherical changes, which, if they cannot be counteracted, deserve to be studied. Even the mental phases, the panic, the temerity, the fatalism which so often accompany and aggravate the disasters of ordinary epidemics, claim our consideration.

We may obtain a better view of the fair proportions of the subject by clearing away the rubbish and obstructions which have gathered around it, and by showing what it is *not*. The mere custody and care of lunatics certainly do not constitute a man a psychologist. Even where the physical wants and diseases of the class are attended to, and where an intuitive penetration into character imparts a certain suavity and address to the management, there may not be even a remote or indistinct conception that it is the immortal part of our nature, the godlike attributes of reason and imagination, and even of *faith* itself, and their ultimate destiny in time, which are dealt with, and which are, as the case may be, ignorantly neglected, unconsciously tampered with, or rashly and ruthlessly invaded and disturbed. It is true that, in many well-constituted and well-prepared minds, the experience which grows from mere contact with and observation of the objects of care and solicitude—the actual shortcomings and failures which experimentalisation involves—suggest, obtrude, necessitate the origin and growth of a philosophy, an analysis of the laws of mind as influenced by disease, which, though crude, is invaluable as affording a basis for moral treatment, and for systematising the relations and responsibilities which connect the physician with his patient. It is beginning at the wrong end to learn the physiology from the pathology of mind; but it is better to do this than to stagger and stumble blindly on without a physiology at all.

But could we realise the absurdity of a pure metaphysician being entrusted with the study or reconstruction of the mind diseased, the anomaly would be as egregious and disastrous. It would be vain for such an expert to ponder over the states of consciousness as presented in himself, or to form his opinions or his course of practice upon abstract principles or the subjective analysis of intellect, emotion, or impulse; and, though the unwelcome facts might be forced upon his attention that his most delicate crux failed to detect the elements of which a morbid act was constituted, or that a tendency handed down through and by a long line of ancestors—

“Through all the blood of all the Howards”—

perhaps, or that an attack of catarrh, or that a fit of indigestion

introduced new and inappreciable relations into the mental phenomena, he would fail altogether in comprehending or combating the difficulty.

It is not with the view of exciting a smile that I ask you to conceive a disciple of the "pure reason" face to face with a furious maniac, or an animist, exorcising the demon delusions that spring from diseased lungs, liver, or ovaries.

Nor would the mere drug-worshipper fare more successfully. Perhaps the recognition of insanity as a bodily disease, while it conferred incalculable benefits upon the patient, contributed to divert the attention of the physician from the psychical side of the diagnosis ; and while he trusted to opium and tartar emetic, he was tempted to forget the "dietetics of the soul," as Feuchtersleben designates our dealings with the moral nature. There is, however, the greater and more unpardonable fallacy in the proceedings of this class of prescribing, and over-prescribing, for the mental condition, of giving opium to cure mania, or iron to cure melancholia ; worse than the old and inextinguishable error of treating a symptom, in place of the disease ; in so far as the morbid operations of mind are further removed from the reach of remedies, and are actually the expressions of changes in consciousness, depending upon the influence of impressions conveyed through altered structure. Such a view does not exclude enlightened therapeutical treatment ; it enhances its value, and gives not only a wider scope, but a more precise and intelligible aim, in its employment. If our knowledge of the physical changes upon which the different forms of alienation depend was more extensive and sound, the limits and effects of remedies might be as much relied upon as in other maladies ; but even at the present stage of our science, when treatment is founded and judiciously conducted on the principle of restoring to health the organisation generally with which mind is connected and upon the normal state of which its soundness depends, success attends the attempt in a large proportion of cases. There is, consequently, ground for regret that the millifidianism which has gained a footing in the profession has contaminated the alienists, and that the consumption of drugs in asylum practice presents infinitesimal quantities, even where these are not exhibited in infinitesimal doses ; that the active medication of the insane is relinquished so early, that large communities are consigned to the limbo of expectancy, and that so many of our brethren entrust their charges to the kind but somewhat dubious and unregulated influences of food, air, water, light. He who refuses the aid of medicine is as much a heretic to the true faith as he who doubts the efficacy of moral agents.

The pure hygienist—powerful handmaids and coadjutors although food and air, &c., must be confessed to be—is likewise one-sided and weak-sided, and restrained by self-imposed bonds. He who, with

that potent instrument, a well-appointed, smoothly moving asylum at his command, contemplates, with self-complacency, exquisitely clean, well-arranged, well-aired, and well-lighted and heated wards; and has exhausted his resources when the meals are well served, the baths sufficiently frequent, and the routine of exercise and occupation meets no shock nor hindrance—who marshals his trades, and marches out his squadrons, and subjects all uninvalided patients to the same discipline—is, perhaps, a good superintendent and a splendid drill; but he has failed to embrace the entirety and the grandeur of his mission.

Even he who addresses the æsthetical and imaginative part of our nature—who seeks to reach the highest and purest qualities, and to evoke their influence in spreading calm and order in the agitated and confused spirit through our sense of the beautiful and symmetrical—though wise, is only partially wise, if he trusts exclusively to decoration, and music, and distraction; miles of walls may be covered with pictures and statues, his charges may be enabled to see scenes of natural beauty or the wonders of art, and every succeeding day and hour may have its appointed recreation and enjoyment; and asylum life may be rendered more cheerful and gay, and more devoid of care and duty, than home life; and still this humane system must be characterised as incomplete, and when weighed against the claims and necessities of the mind diseased, must be regarded as frivolous.

In short, the man of one remedy or class of remedies, or who elects such to the undue disparagement or disuse of others, is nearly as rash and in as great danger of defeat as he who fights his antagonist with one hand, or as the physician with no remedy at all, who consoles himself with the antiquated dogma that diseases have a tendency to cure themselves.

We do not undervalue these fellow-labourers; for, humble and limited although some of these approximations to medico-psychology may be, there is involved such an amount of force and dignity of character, such self-possession and self-denial, that neither the public nor our profession know of, think of, and, from their ignorance of the situation and the requirements necessary, cannot realise. There is, however, now no excuse for partial knowledge, since public instruction in medico-psychology may be obtained in conjunction with almost every medical curriculum in Britain.

We are disposed to include in the same category those who conceived that they were curators of the health of the body, and left the mind to its own devices; those who neither courted nor could conceive intercommunion, nor friendship, nor confidence between the physician and his charges; nor who understood the sanatory influence of the healthy over the disordered, of the clear and educated over the ignorant and clouded intelligence, or of sympathy in bring-

ing back the erring sentiments to calm and sobriety. These contracted modes of action have passed away, or are rapidly passing away, not so much because we have become wiser philosophers or better physicians, but because we have been brought experimentally into contact with the diseases we have to treat—because we now regard the condition as a disease, and not as a superstition, or an abstraction or a bugbear, and because our treatment is founded upon a more just estimate of the laws of the nervous system.

In referring the origin of these opinions to a comparatively recent date which are now recognised as the basis of medico-psychology, my course has not been dictated by any supposition that the philosophers of antiquity were ignorant of the laws of mind. They are, perhaps, open to the animadversion that each individual was a school, a system, a philosophy to himself;—a result, it is probable, of their depending more upon reflection than upon observation—of having devoted their inquiries more to subtleties and to verbal abstractions than to the analysis of mental phenomena; and, above all, they may be arraigned of having neglected or omitted the study of insanity, either because it did not come legitimately within the sphere of their inquiry, or that it did not subserve as a mean of illustrating the objects to which that inquiry was directed. They described as divination or possession what was not “dreamed of in their philosophy,” but was actually, and what is now, admitted to be departures from the ordinary laws of healthy mind; and to the malign influence of this theory may be attributed the cruel persecutions and punishments to which certain classes of madmen have been exposed down almost to our own time. There are, of course, many illustrious exceptions to this condemnation. Aretæus seems to have anticipated the views prevalent during last century; to have accurately described the two grand categories, mania and melancholia, under which even now many practical men would place all mental diseases; tracing them to vitiation of the humours and fluids; secondly, to have distinguished, with great ingenuity and delicacy, these typical forms from transitory conditions, such as delirium, intoxication, and natural depression; and, lastly, to have been the originator of moral treatment, although a foe to pictorial ornamentation.

In a still nobler mind there appears to have been a foreshadowing of convictions which have coloured or interpenetrated the doctrines and school so long in the ascendant in Germany, and which has still its representatives. “This internal physician, this councillor and aid, is the power itself which, in every individual being, binds and holds together, in a suitable manner, the finite and the infinite—the soul. It cannot have the knowledge which it evinces from its body, of whose existence and life it is the cause; nor from experience which it has had in common with the body, for that knowledge, in fact, preceded this experience, and in the first instance made

it possible." So spake Plato. I quote from Feuchtersleben, and so, twenty centuries afterwards, spoke Stahl, very nearly in the same words.

The views of alienation will correspond to and be a reflexion from the popular or established opinions and creeds of the time. They will be somatic or psychological as materialistic or idealistic opinions prevail. All, however, will be disposed to admit that Plato and Aretæus represent two great schools, lines of thought, or modes of belief, which run through all history, and may, under certain modifications, be as distinctly traceable in the present as in any former age.

Out of the incubation of the fifteenth, sixteenth, and seventeenth centuries there sprang, after many abortive attempts, in full and mature development, the doctrine of the Vitalists. The proposition of Van Helmont was, that all changes, structural or functional, in the body, whether resulting from its own spontaneous action, or from the effects of food, remedies, &c., are under the guidance and governance of a specific agent connected with, but distinct from, the living system. This agent is either an abstract principle or power distinct from matter, or matter so endowed with new qualities and energies as to be entitled to be regarded as an entity. Stahl designated this archæus, or intelligent but unconscious principle, *Anima*, and recognised it as building up the system, as detecting the presence of all noxious or destructive influences and disorders, and as providing against their effects by exciting such conservative molecular and other changes in the body as may counteract or repair the injury threatened or inflicted.

Dr. Stahl, says Cullen, "has explicitly founded his system on the supposition that the power of nature is entirely in the rational soul. The soul acts independently of the state of the body, and that without any physical necessity from that state: the soul acts purely in consequence of its intelligence perceiving the tendency of noxious powers threatening or of disorders arising in the system, immediately excites motions in the body as are suited to obviate the hurtful or pernicious consequences which might otherwise take place."—Vol. i, p. 6, Preface to Cullen's 'First Series' (Gregory's edition), 1829.

But, in addition to the recognition of this principle, which manifests the attributes of what may be called instinctive reason, and is now dignified by the name of *cœnesthesis*, or common feeling, and is referred to the ganglionic system, but especially to the phrenic focus; Stahl undoubtedly founded the German psychological school in advocating the dogma that morality, independent of external influences (more or less accidental), is the principle of order in the corporeal and intellectual life, and stands in the same relation to mental integrity and development that the *anima* does to nutrition and growth; and, on the other hand, that immorality is the sole

cause of perturbation and disease. And to this point may be traced back, in modern times at least, the application of moral agents as remedies.

Heinroth, who forms the next link in this series, held that man lives, as far as he is man, by reason; that the highest point of human activity is gradual progression: that the first degree of this is sense, or individualism; the second is where the individuality, the *me*, is placed in opposition to the phenomena outside of it.

Between these intermediate stages, and in the essence of *me*, grows up the third term, conscience, which is at this point nothing more than the germ of a higher power, which is derived from a still more elevated source. Health, again, is the equilibrium or harmony of our thoughts and our desires, accompanied by the pleasure which attends the complete exercise of a function. Disease is the destruction of this unity in the suspension of one or more of the vital forces; and its origin cannot be found in the body, but in reason. We suffer, we fear, and the result is passion, which, as a disorder of sensibility, reacts upon the other faculties; throws reason into grievous errors, influences the will, leads to extravagance and dangerous delusions, and crime; which, however, Heinroth attempts to distinguish from derangement.

To this disturbance of the spirit, or diathesis, all insanity is traced; and somatic accidents, violent impressions—even education itself—are regarded as prejudicial or destructive to mental health and serenity by and through this medium. This theory has in the process of condensation, and in the attempt to eliminate obscurity and vagueness, been stripped of much of its attractiveness. And, moreover, it would be unfair to measure Heinroth's precepts of moral treatment by such cloudy magniloquence as "the neutralisation of sensibility is a new product, madness," nor even by the epitome now presented.

The precepts themselves form a code of moral management:—

I. Combat excitement or depression by recalling them within their just limits.

II. If imagination suffer, abandoning itself to reveries and unrealities, have recourse to sensible impressions and lively revulsions.

III. When reason is perverted, it must be combated, not by direct arguments or syllogisms, which irritate the patient, but by indirect appeals through other powers—by tact and discrimination.

IV. If sensibility be blunted, it may be roused by joy or pain.

V. In partial insanity, utilise the healthy faculties in treating and guiding those diseased through the influence of occupation, education, and amusement.

The philosophy of Ideler may be summed up in the propositions—

I. The knowledge of insanity should originate in that of the pheno-

mena of the normal psychical state. II. Psychology stands in the same relation to mental affections that anatomy and physiology do to physical diseases. III. The want of correspondence between morbid appearances and symptoms opposes the supposition that mental diseases originate in organic changes. IV. Derangement is not a symptom—it is a result of the moral organisation, in a state of change, of the unequal growth and unequal rapidity of growth in the individual faculties. Here is reproduced the equilibrium supposed by his predecessors necessary to health. Ideler is better known, however, as the pupil and biographer and the incarnation of the genius of Langerman, who is said, epigrammatically, to have written no book, but to have left a living book in his disciple behind him. Their conjoined doctrine was, that the lunatic mistakes the real end of life, and subverts the true subordination which should regulate the relations of the faculties, not by an error of logic, but by the unhealthy exercise of the will, and of the desires which precede volition; states which together regulate all human acts; in other words, by the emancipation of these powers from conscience.—Secondly, that the great objects of the psychologists should not be reason, attention, but the moral forces or character; or the tendencies, sentiments, and general dispositions of the mind, and of the passions, either singly or in relation.—Thirdly, that the passions, or the product of sensibility, act as the stimulators of our activity; morality merely modifies or moderates their development. In their predominance and disproportion insanity consists. Joy is an index and measure of activity; pain is the proof of an ungratified tendency. Pain is to the tendencies of the soul what vice is to morality. If passion gives time for the exercise of reason, vice follows—if not madness. Spontaneity determines the action of reason and of passion, which may resist, or modify, or nullify its power. A symptomatic insanity is admitted, as in fever, but the origin of genuine idiopathic mental disease must be sought for in passion, *l'état maladif*, and in disturbance of the primitive instincts.—Lastly, not merely the intellect and sentiments, but even the physical forces, mould themselves upon the type of passion; an assertion which may be accepted as the modern phasis of Stahlianism.*

One whose name and fame still cling to the walls of our university may be regarded as having passed the boundary line—or, perhaps, more correctly, as forming the connecting link between the animists and the modified doctrine which now prevails. Robert Whytt is claimed, and with apparent reason, as a partisan of their respective opinions by the animists, the semi-animists, and the medico-psychologists. No higher tribute could be paid to his memory, or to the judiciousness and moderation, or anticipative soundness of his views.

* “Etudes Historiques sur l'Aliénation mentale,” par Ch. Lasègne et Aug. Morel, t. iii et v, ‘Ann. Médico-Psychologiques,’ 1844.

He was a physiologist of modern convictions, living and distinguished in past time. With the Stahlans, he held that impressions conveyed to the nervous centres excited, by a "physiological necessity" and according to certain laws indicating design and plan and purpose, animal movements—in other words, vital functions, such as digestion, nutrition, circulation; and this without reason, attention, or consciousness. It is very possible that he did not identify this "*physiological necessity*" with a psyche or anima; but he apparently viewed it as different from the rational intelligence—as never rising into consciousness, as self-acting, and as productive of results in the construction, maintenance, or reproduction of that machine, or organisation, upon the integrity and health of which mentalisation depends. His most recent and distinguished biographer seems to be conscious of this; for, while vindicating Whytt from the allegation of Haller that he was a semi-animist, he writes, "There is still room in modern science for a psyche: when the inquirer, not content with mere law, seeks the causes of organic phenomena, he cannot dispense with such an active force. As human intelligence is required to combine and regulate the natural forces which man avails himself of to produce his own works upon earth, so with all the new-found activity of matter derived from the interchange of such forces as light, heat, aggregation, affinity, electricity, polarity, a psyche is indispensable to direct the order and course of these forces in the development and working of organic bodies. Deduct the effects of all these natural forces in the development and working of organic bodies, and the residual force found to be necessary constitutes the psyche—a force just as essential in a protococcus as in the human frame. If it be otherwise sought for, it is nowhere else to be met with, except in the potentialities existing in the reproductive cells derived from the first parent or the first parents of every species in the organic world." He adds further, "such a psyche as is held essential by many modern physiologists—such a psyche as was upheld with much force of argument by the present Professor of Anatomy, in a discourse which he has not yet published, delivered to the Royal Medical Society.*"

While we most fully admit, however, that the mind of Whytt was the bridge between the theory of a vital unconscious reason, and those of unconscious cerebration and reflex action of the brain; if he did not, according to Brown-Séquard, initiate or foreshadow them; and, in addition to this, and more important than this, that he advocated, and in his own experience carried into effect, the study of vital and mental phenomena as affected by and observed through organisation, in opposition to all purely chemical and mathematical philosophies,—we cannot resist the conviction that, even as con-

* 'Transactions, Royal Society Edin.,' vol. xxiii, part i, pp. 107-8.

veyed in the following lucid and definite words of Dr. Sellers, and still more palpably in those of Whytt himself, there is a very distinct adumbration of animism, and to which I do not object: "That the peripheral extremity of an afferent nerve being affected by an impression, there results a corresponding condition of the nervous centre, whence, 'in accordance with the constitution of the living frame,' a motor influence is determined through afferent nervous filaments to particular organs which are thrown into movement."*

It is highly probable that this determination of certain messages to particular obedient organs, which act unconsciously for a useful end, and this without any act or interference or cognisance of mind, would have been accepted by Van Helmont and Stahl as an instalment, if not as a fair and accurate exposition, of their cherished dogma. Even the theory suggested by the word *co-ordination*, now in such constant use, involves a similar conclusion. This consideration has been largely insisted upon, because in it is, in my conviction, contained the true theory of the relation between our physical and psychical nature—that the power which regulates must be different from, independent of, superior to the forces regulated.

Running parallel to, mingling at various points, and ultimately merging into one confluence with the school which we have described, was that of which Friederich and Jacobi were the representatives, which held—1. That the spiritualists erroneously regarded exorcism and superstitious ceremonies as among the rational means of moral treatment.

2. That the doctrine of the spiritualists is immoral, as placing disease, and consequently the eventuality of destruction, in the soul, which is one and indivisible.

3. That it is false, as it confounds moral error, delinquency, with the mental state of lunatics. The untenability of such a proposition being demonstrated by the facts—

- (1) That large numbers of criminals have not been unsound of mind.
- (2) Children are insane before they can distinguish right from wrong.
- (3) Upright individuals have been attacked with insanity.
4. That mental diseases originate as often in physical as in moral causes.
5. That they are cured by physical remedies.
6. That our moral nature is superadded to the functions of matter.

About the opening of this century, the opinions of writers and thinkers upon this subject were capable of being divided into three classes :

* 'Phil. Trans.' ut supra, p. 124.

I. Where the mental operations were regarded as the functions of matter, and mental diseases as bodily diseases.

II. Where the mind was held to have existence independent of the body, and its diseases as resulting from the want or loss of equilibrium, or of due culture in its powers, or as the effects of immorality or crime. And,

III. Where an independent operation or life of mind was believed in, and where its derangements were represented as partly psychical and partly corporeal.*

These represented, in fact, the schools into which physiologists were divided. The recent establishment of sounder and broader views, the result of more accurate observation, and, above all, of the careful *practical* study of mental disease by educated men, have lessened the distance between these conflicting opinions, and have so diminished the difficulties by which they were separated, that mind is now admitted as having an independent existence, but to be so intimately connected with organisation that its operations may be facilitated, impeded, or abrogated through this connection ; and that mental diseases are the consequences of the disturbance of that nervous power or influence which, under present circumstances, connects mind and matter. Even Friederich, whom we have cited as the champion of the pure somatic school, is detected by Feuchtersleben in propounding as "one of the arguments for the somatic nature of all mental derangements, that the mind is an independent indivisible energy, and incapable of becoming diseased."

And we may triumphantly point to Griesinger, the pathologist, as holding similar opinions : "Entre ces deux actes fondamentaux de la vie physique il s'entrepasse toujours quelque chose excité par sensation, un troisième élément, etc. Cette sphère, c'est l'intelligence."—Pp. 28, 29.

Even the doctrines of Gall and many of the phrenologists, by a route which seemed to end in materialism, led to the same proposition. The assertion that the brain was the organ of the faculties of the mind, by and through which it acted, involved its distinct existence, as well as the proposition which constitutes the basis of medico-psychology.

The course of thought among German psychologists has been introduced and pursued, because if it did not actually form the channel through which all that is true and valuable of the philosophies of early times has descended to us, it certainly has contributed many of the materials of which modern belief has been built up and composed ; and this whether we regard the firm and substantial observations of the pathologists, or the more subtle and

* 'Feuchtersleben,' p. 68.

plastic experience derived from consciousness. The prevalent opinions are a union, a harmonisation, a compromise, perhaps, between the materialists and the vitalists; and the general consensus of living medico-psychologists in Europe who have thought out the subject, or thought upon it at all, after making ample allowance for individualisations and idiosyncrasies, may be represented as consisting of convictions that the mind, whatever its nature may be, is intimately connected with, but is not a property of, nervous structure; that its laws, and the relations of those states of consciousness which are named faculties, feelings, instincts, can only be studied and understood in relation to, and as influenced by, the conditions of organisation; that its disorders and diseases must be recognised as expressions of arrested or undue development, or of molecular or other changes—even healthy changes—or of degeneration and destruction of structure; that the remedies when material act by influencing these changes towards health, and thus establishing the normal relation between mind and nervous matter; and when moral, or acting more directly on the intelligence and feelings, they stimulate or repress, or alter, as the case may be, the functional process upon which healthy mentalisation depends. It may be further observed, that this analysis would not express the prevailing doctrine did it limit the relations subsisting between mind and matter to the cerebro-spinal axis. The great characteristic of current opinion appears to be, that wherever there is nerve, *there* is psychical function, actual or potential, which may act dynamically, or through the influence of nutrition, or rise through pain or morbid activity into the range of consciousness. This is the stage at which the archæus of our predecessors ceases its specific instinctive operation, and comes within human cognisance. The nervous influence of the great mass of physiologists, the *cœnesthesis* of Feuchtersleben, the law of others which is represented as acting altogether irrespectively if not independently of intelligence, becomes part and parcel, and permanently so, of our intelligent being, and furnishes materials for thought—or, more correctly, thought itself. Such propositions as this, and more especially that every mental process must be judged of and treated in reference to the nervous structure and frame in general, and their functions, enormously increase the domain and importance of psychology. If it discloses the innumerable sources of mental disturbance, and that the boasted supremacy of mind is a fable—that it is really dependent for its activity, and integrity, and responsibility, upon the laws and health of the general economy,—it further demonstrates that no circumstance, no impression internal or external, which through these laws reaches our instinctive or conscious nature, but is accompanied with molecular changes, and cannot and should not be excluded from our philosophy. The construction of an asylum—the dietary, the clothing of the insane—the laws under which

they are disposed of and managed—are in this view as rightfully, if not as much, within the province of medico-psychology as the relation of reason to volition ; of the evils of concentration, monoidealism, or excitement upon the circulation in the brain ; or as the effects of sleep, amusement, religious teaching, in bringing about the equilibrium of the faculties.

We are not open to accusation that the co-ordination of these fragments, and the formation of a consistent and what promises to be a mature view of the whole subject has been late in development. The causes of the delay are to be found *first* in the late period at which the insane were subjected to close and clinical observation, and regarded through any other medium than that of superstition and fear ; and, secondly, in there being no body of observers specially prepared or devoted to the investigation, or, indeed, as having power and opportunity to devote themselves.

It is not asserted that to the German school or to any particular class of authorities we exclusively owe the principles upon which our science and treatment are founded or regulated. Such views grow up under all systems, and without system, in every class of minds. Every practical man, even he who boasts of his freedom from the shackles of hypothesis and the vagaries of speculation, has a theory ; and wherever *that* is true and sound, or to the extent to which it is true and sound, and has led to a judicious and humane course, it may be confidently claimed as a contribution to the science which its possessor may scorn.

Pinel was an actor rather than a thinker. His writings contain, however, valuable clinical observations. He records his inability to trace mental disease to lesions in the nervous structure, and yet he calls mania “an act of the living principle which must change organisation ;” but his habits of thinking and his treatment, though far from heroic, and, in fact, a protest against the sanguinary and exhaustive processes of his contemporaries, were in keeping with the principles then and ever since triumphant in France. His fame depends greatly on reposing unbounded and loyal faith in the law of love and kindness as a mean of cure, amelioration, and management. It would be vain to connect this revelation with the philosophy of his countryman Descartes, or with the lurid dawn of that sun of liberty which was supposed to have disclosed for the first time the destiny of our race ; suffice it that Pinel burst the fetters, levelled the oubliettes, proclaimed humanity, and established rational paternal ministrations as the right of the insane, because they remained men although they were mad, and were susceptible of cure or of improvement, though labouring under the greatest and most grievous, but not the most incurable, of diseases. He was born in 1742, the contemporary of Langerman, born 1768 ; and they may be regarded as types of the mental tone and tendencies of the races to which they respectively

belonged, and which were ultimately to converge and culminate into a more catholic creed. Langerman is rich and recondite in the metaphysical and ethical aspects of alienation; Pinel is perspicuous, practical, philanthropical, but not psychological.

The successor of Pinel was more of an observer than a philosopher, and he was more of a philanthropist than either of these. The writings of Esquirol even now form an inexhaustible treasure-house of carefully noted facts, and when published new to the profession, because the insane had scarcely until his time been submitted to the observation of scientific men, and were placed in circumstances calculated to change and aggravate the character of their malady, and to render them dangerous and formidable, and to suggest grotesque and erroneous ideas of their condition. The achievements of Esquirol consisted in feeling in his gentle and Christian heart, and developing in his practice, what Pinel had hoped and initiated, but much more than he had dreamed of. To his personal manners and example, as much as to the principles he had laid down, are to be traced the rational views of insanity which now prevail. His life was a long clinique, instigated and animated by charity and sympathy. He built up no theory of his own; but, so far as he theorised at all, he may be claimed by the present generation as holding their opinions. His immediate representatives, pupils, and admirers have now for twenty-three years embodied and developed these opinions in the 'Annales Medico-Psychologiques.' Our science is of long and tardy growth; our name is due to the school and the invaluable series of papers to which we are now referring. From the prefatory address or profession of faith by Cerise, in which the mixed or psycho-somatic view is expiscated until now, with such deviation and diversity as are inseparable from free discussion and the co-operation of different minds, the same principles may be traced. This may be, in part, attributable to the work having been conducted by the same editors; but it is much more due to the general acceptance and predominance of the principles themselves. How far this splendid record of the thoughts and deeds of a section of our department may have exerted an influence upon the convictions and literature of the profession in this country, it would be presumptuous in me to say; but we may pass on to another topic with the remark that such an example is deserving of all honour and of imitation.

The study of the literature of our department has become absolutely imperative, were it for nothing else than to prevent rediscoveries and the prosecution of inquiries long since exhausted.

American literature appears to justify the supposition that our fellow-labourers in that country concur in the theory which now prevails in Europe. No systematic works have reached us from the United States since those by Caldwell, Brigham, and Ray; and, in

speaking of American literature, reference is made to the 'Journal of Insanity,' and to those valuable contributions which appear in the form of annual reports from different asylums. These papers, adopting a practice introduced but not generally followed in this country, contain to a great extent the personal experience and reflections of the writer. Although, being addressed to many non-professional readers for the very purpose of dispelling gross and grievous errors, and of substituting sound and benevolent views, they are so far popularised as to be freed from many unnecessary technicalities; they preserve the dignity of the subject, and in no degree derogate from the professional position of the writer, and contain a body of important information and philosophical induction so valuable, that the ephemeral nature of the vehicle to which they are committed is to be lamented. The monographs of Drs. Ray, Butler, Kilbride, Chipley, &c., are of the highest order.

An examination of our own authorities, from the anticipative essay of Beattie, published a century since, to the last profound analysis by Professor Laycock, although they may be found to incline less or more to one side or other, will justify the conclusion that the psycho-somatic theory is here, as elsewhere, in the ascendant. Two illustrations may suffice. Of the classifications now in use, one is founded upon the mental phenomena as indications or symptoms of mental disease; another refers mental diseases to the supposed organic cause, and names them accordingly, but describes them by the mental phenomena; and in a third, the attempt is made to distinguish and arrange the morbid affections according to the primitive instincts and powers involved. But in *all* the correlation of the psychical and somatic aspects are either taken for granted or designedly recognised. The prevalence and sincerity of this belief may be further exemplified in the principles which guide our therapeia. Morphia is prescribed to produce sleep, and thereby to lessen mental activity and to economise force, to check the metamorphosis of nervous tissue, to facilitate nutrition, and, in these ways, to induce healthy mental action. Cannabis Indica is resorted to in melancholia as producing the same result, by reversing the order of the process. Happy and joyous thoughts, and dreams, and even delusions, are suggested. Artificial and temporary convalescence, a lucid interval, are created; active and healthy nervation ensues; the effect on nutrition and sanguification is such, that anæmia, generally the origin of the moral suffering and other psychical phenomena, are removed. All moral means, again, act perhaps through their influence upon structure, or, at all events, less by direct operation on the intellect and emotions than by stimulating the nervous structure to that degree of activity which is necessary to the normal exercise of the faculties. And, in contradistinction to this, the shower-bath, counter-irritation, occupation, prove chiefly beneficial

by appeals to fear, suffering, and the sense of discipline. Iron, iodine, bromine, all important agents in the removal of insanity, are supposed to reach the mind through the blood; whereas joy and other moral impressions reach the blood through the mind.

These are considerations which point emphatically to medical men, as the only class who have even partially embraced such principles, and who are entitled to be autocratic in their exposition and application.

Among those who have contributed largely and lovingly to the promotion of medico-psychology, and to its organisation into the form which it has latterly assumed, but have passed away since we last met, must be remembered I. Jean Parchappe de Vinay. Prepared by having passed through and distinguished himself in the offices of lecturer, practitioner, medical superintendent for thirteen years, he was elevated to the position of inspector-general of the insane and of prisons; a combination which, though natural and appropriate in itself, has not yet found a place in the British mind. The elevation was, in one sense, a bauble dignity, as barren as the cross of the legion of honour with which it was accompanied, as he left ample emoluments and a large practice at the call of government. He is described, by those familiar with his life, as simple and industrious in his habits—as a learned physician, a profound philosopher, an able administrator, and master of the most minute details. We, however, know him chiefly as the author of ‘Treatises on the Brain, its Structure, Functions, and Diseases;’ in which he advocated the psycho-somatic doctrine, and discriminated the cerebral changes found in the bodies of the insane, into those connected with and those unconnected with the mental disease; as the architect of several of the asylums recently erected in France; and as the patron, protector, and friend of those who, as he once was, are placed in the trying circumstances inseparable from the due discharge of the duties of a medical superintendent.

Ripe in years and wisdom, Sir A. Morrison recently died. Though of a generation that has passed or is rapidly passing away, and designated by one of his biographers as a patriarch—and though living in the quiet suitable to the twilight of years—he never severed the ties which connected him with our department. It must have been among his latest acts to endow a lectureship in connection with the Royal College of Physicians, now held by our honorary member Dr. Sellers. He has other claims upon our memory and respect. He was, perhaps, the first who, in this country, delivered a course of lectures upon mental science. His attention was chiefly directed to the physiognomy of insanity; and, I believe, these lectures, and the drawings by which they were illustrated, now form a large portion of his work upon this subject. The physician of two large hospitals for the insane, and personally and practically acquainted with the

imperfections of the human instruments by which those who minister to the insane are compelled to work out their plans of treatment, he founded an association for the purpose of rewarding by honours and prizes the long-tried and faithful among the attendants in asylums, and thus to hold out encouragements to candidates of a higher order of qualifications.

John Conolly displayed, within the university of this town, and in the arena of the Royal Medical Society—dear to many of those who hear me—those predilections and preferences which ultimately determined his destiny, and gave him a position of nearly equal rank among physicians and philanthropists. His thesis was on Insanity, and formed the foundation of that work by which he is most popularly known. A physician in increasing practice, one of the editors and originators of the ‘British and Foreign Medical Review and Cyclopædia of Practical Medicine,’ and a teacher in a University, John Conolly, I know, never felt that he had secured his true position, or that he had found a fair field for the exercise of his head and heart, until he was appointed medical superintendent of Hanwell. It is not affirmed that he made personal sacrifices in order to accept this distinction ; but, like that of many other great and good men, his life was one of much sacrifice and much suffering. It is not my province here, however much it may be my inclination, to speak of more of his good deeds than of the assistance he afforded in the grand revolution effected in the management, and of the effects of his teaching in the propagation of sound views in the treatment, of the insane and of the idiotic. I cannot refrain from claiming him as an advocate—and as a philosophical advocate—of a medico-psychology founded upon induction. His ideas, it is true, seemed to have passed through his heart, and his feelings to have raised and rarefied his intellect. Perhaps it is because of the elegance and popular attractions of his style that his habits of thinking have been regarded as less logical than illustrative ; but his “Indications of Insanity” show a familiarity with the laws of the human mind, and especially with the peculiarities and subtle defects by which it is disturbed and unhinged, requiring great perspicacity and penetration, as well as careful analysis.

Sensitive in his rectitude, gentle and genial, he was to all men conciliating and courteous ; to his friends, and I judge after an experience of thirty years, he was almost chivalrously faithful and generous ; and the insane he positively loved.

It would be trite to say merely that these men, “though dead, yet speak.” We repeat their very words, we think their very thoughts ; are, or ought to be, animated by their very spirit ; and so far as we carry into our daily work lofty aspirations as to science and duty, but humble pretensions as to ourselves, a severe and self-sacrificing sense of the peculiar nature of our professional obliga-

tions, and sympathy for those committed to our care, we shall best do honour to their memory, and best serve our country, our profession, and our God.

The Insane Colony of Gheel Revisited. By JOHN WEBSTER,
M.D., F.R.S.

(Read at the Annual Meeting of the Medico-Psychological Association, held in Edinburgh, July 31st, 1866.)

NEARLY ten years ago I visited the very ancient establishment above named, whereof notes appeared in Dr. Winslow's 'Journal of Psychological Medicine' for 1857, and which, I was led to believe, by the discussion that ensued, rendered this interesting institution better known in Great Britain than heretofore. Since that period, various professional and other travellers, as well English as foreign, have paid visits to Gheel, and also subsequently published valuable reports, with remarks on improvements recently accomplished. Being anxious to inspect a second time this colony, and observe the ameliorations which Dr. Bulkens, its able medical superintendent, had effected, I again visited Gheel during May last; and thinking some account thereof may interest members of the distinguished Society I have the honour to address, my present communication has been drawn up, trusting, at least, it may excite some attention from philanthropists and psychological physicians.

However, I would first briefly notice the ancient legend whereon the reputation of that far-famed retreat for insane persons is asserted to rest, and which, I hope, will not prove wholly uninteresting, although likely familiar to members of this learned Association. According to tradition, late in the sixth century, Dymphna, a daughter of an Irish king, was converted to Christianity by an anchorite named Gerebert. The father of this young lady felt greatly enraged at her conversion; and being also enamoured of his own child, threatened dire vengeance. As the novice remained obstinate to parental authority, accompanied by her spiritual adviser she fled across the ocean, and ultimately arrived at Gheel, in which remote district of western Europe, Dymphna then resolved to dedicate herself in future to devotion and celibacy, along with St. Gerebert.

But the old pagan sovereign having subsequently discovered the fugitives' retreat, followed in their track, and insisted upon his daughter again changing her adopted faith; but to such proposal she still refused compliance. This continued obstinacy made the savage monarch so furious, that at one blow with a sword he cut

off his daughter's head, having also mercilessly beheaded St. Gerbert a short time previously. These cruel deeds, it is further reported, so greatly frightened several lunatics then present, and likewise produced such strong impressions upon their excited feelings, that they became cured as if by enchantment. Immediately the cry "A miracle, a miracle!" was raised by wondering bystanders; and thus "Dymphna," "saint and martyr," has ever afterwards been the patron of all demented victims, in Gheelois estimation. This belief having spread abroad, not only in Campine but to other countries, lunatics hence flocked to Gheel, in order to get cured through St. Dymphna's intercession. About A.D. 1200, a church was erected on the spot where the two murders just described had been perpetrated, in which the female saint's bones were subsequently deposited, and are still preserved in this sacred temple, according to popular opinion.

Nevertheless, leaving that disputed question for casuists to settle, it will suffice to state, that the tabernacle said to contain St. Dymphna's remains usually stands on four stone pillars behind the church altar, and has a passage under it of about three feet in height, through which lunatics formerly brought to Gheel were accustomed to pass on bended knees. Poets say, "the palace stairs of great personages were often worn away in ancient times by beggars asking favours." Here that sarcasm is really verified, since the stone floor of this much-revered locality is indented to some extent by the crawling limbs of devotees, who came thither to be freed from their mental malady. Similar genuflexions are indubitably now much more rare than in ancient superstitious times, although examples of such ceremonies have occurred in years not long by-gone, where maniacs devoutly crawled through this hallowed precinct, as well as some persons desirous themselves to obviate the contingency of being subsequently attacked by mental aberration. When these formalities took place, the parties accompanying a lunatic continued singing hymns and praying during the whole time, so as to assure more certainly the saint's favorable intercession. Near the central part of St. Dymphna's church, and on the left of its choir, a large case like a sentry-box contains the saint's figure, gorgeously clothed in velvet, with lace, gold, and other ornaments. On the other side of this choir is placed, as if by way of counterpoise, nearly the half of what had formed a stone coffin, wherein, tradition says, were found the saint's mortal remains. But the most singular portion of this sacred edifice is a dark dungeon-looking apartment, in a small house attached to the principal church tower, and apparently used as the present occupants' kitchen, where maniacs formerly brought to Gheel were first lodged, during at least nine days consecutively. Throughout that period, persons reputed insane remained during day-time closely bound to the fireplace by

an iron chain connected with a ring, also iron, on one wrist, besides having another attached to their ankle ; while, at night, the wretched victim was tied down in a wooden bed, containing straw instead of a mattress, by strong iron chains, to prevent movement. Besides such harsh treatment, during the *entire nine* days considered essential to ensure recovery, *nine* young virgins, hired for that specific purpose, made a daily procession round the church aisles, passing *nine* times on bended knees under St. Dymphna's tabernacle ; invocations being likewise offered up for the patient's recovery ; at the same time that a priest recited certain prayers, held essential on these occasions. At one side of this room, close under its roof, there is a small gallery, from whence relatives and curious spectators could witness whatever mystical ceremonies might be going on below. But proceedings like those described being now rare, a stranger's curiosity can be very seldom gratified.

The commune of Gheel, strictly speaking, constitutes part of a province designated Campine, or "Kempen-land," which signifies flat, or plain, without trees. It is fifty miles from Brussels, and forms a level but somewhat elevated portion of eastern Belgium, when compared with adjacent low-lying lands. Gardens and fertile fields occupy the vicinity ; but on several sides beyond, these often pretty enclosures are surrounded by sandy steppes, or wastes of considerable extent, having quite a different character. The environs are, however, much more productive than outlying districts ; while the town itself occupies a moderately elevated position, lying betwixt the river named "Great Nèthe" and two tributaries, but much smaller, called the Eastern or Little Nèthes. Although not very salubrious—intermittent fevers and typhus being sometimes frequent, while during winter pectoral diseases often prevail—still the district is not deemed so unhealthy as various portions of Belgium, where damp soils and malarious emanations act injuriously on the human frame. The entire commune has nearly 11,000 inhabitants, of whom about 4000 reside in Gheel itself. The principal street is long, broad, and possesses some good houses, with several shops and comfortable hotels, especially the "Turnhout Arms." On one side of its central Place stands the cathedral church of St. Amand, St. Dymphna's being in another quarter ; besides which, adjacent streets and hedge-enclosed gardens make Gheel resemble most Belgium towns of the same magnitude.

The entire colony in superficial extent comprises 27,000 acres ; its greatest length, from north to south, being nearly fourteen miles ; the breadth, from east to west, eight and a half miles ; and altogether may be reckoned at from thirty-seven to thirty-eight miles in circumference. The commune is divided into four sections, within which there are seventeen hamlets, some being almost little villages. Each section has a physician, under whose special charge all lunatics

dwelling within its limits are placed, while the superintending physician overlooks the whole establishment. The latter also receives every new patient or lunatic transferred from any private dwelling to the central infirmary, either because the party's physical health had become seriously affected, or mental malady required special medical attention; and further, if temporary seclusion was deemed necessary in particular cases, but which could not be properly carried out at an ordinary residence by the patient's usual attendant.

On the 20th of last May, the total insane residents in Gheel and commune amounted to 1025, being 512 male and 513 female lunatics, or an equality of both sexes, who were divided into four separate classes, with reference to the respective sums paid for their maintenance; but, first, into indigent paupers; and second, pensioners, or private patients, according to ordinary language. The former class comprised 908, of whom 432 were male and 476 female lunatics; the male pensioners being 80, with only 37 females in that category. Again, of the entire number, 867 were native Belgians, the remaining 158 being born in other countries. Throughout the district where lunatics are only allowed to reside, the total licensed houses are 726, classified into four divisions; and seeing the commune contains about 2100 different residences, it hence follows, at least one in every three has a resident lunatic. Houses of the best class amount to 72, where from 1000 to 2500 francs are paid annually; the second comprises 148 residences, in which from 500 to 1000 francs is the remuneration; the third consists of 382 houses, the payment being beyond 200 and up to 500 francs; while dwellings in the fourth list are only 124, and in these 200 francs is the usual allowance. Unless under particular circumstances, not more than three lunatics can reside under one roof; and two demented inmates cannot occupy the same room. Special sanction may, however, be granted by the managing committee, in concurrence with the superintending physician, for a larger number of patients being received, but only after he has reported that the locality and all essential appliances are properly adapted for the proposed augmentation. Usually the sexes are lodged in separate houses; nevertheless, with regard to aged persons, whose malady may be chronic and deemed inoffensive, a male lunatic is occasionally allowed to live in the same family where an insane old woman analogous in character also resides. All suicidal, dangerous, homicidal, or mischievously disposed insane persons are, however, rarely received, or allowed to remain after they decidedly manifest such characteristics; and when patients so become, they are usually sent home, or transferred to some asylum elsewhere. Further, the authorities generally place boisterous and agitated maniacs at remotely situated cottages, or

farmhouses located in open heaths distant from the town, where, having few neighbours, they cannot disturb any insane patient or cause much annoyance. Again, such parties, if much excited, may walk about in gardens or fields adjacent without danger to others or themselves. Being also thereby placed beyond the observation of strangers; and not likely to come in contact with similarly afflicted fellow-creatures, evil consequences seldom result from such arrangements.

Tranquil patients and many of the highest paying pensioners live in Gheel, the total cases of that description being upwards of 230, or beyond one fifth of the whole insane population residing within the commune.

On making inquiry, I learned only one house contained five lunatic inmates; several had four, or more frequently two, but one was most common. It should be stated, however, that recently a large mansion has been constructed in the chief street of Gheel, at an expense of more than 50,000 francs, which will be adequate for eight patients, each having separate bedrooms, and also several a sitting apartment, should such additional accommodation be required. There is likewise an extensive and well-laid-out garden adjoining, with various other appliances deemed essential for the amusement or occupation of lunatics. In short, this new dwelling forms an excellent "maison de santé" of a superior description. Only four insane patients lodged at this house when I visited its interior, all being foreigners, viz., one English, two French, and one Swiss.

In consequence of varied improvements lately effected at Gheel, every class, especially those designated pensioners, or who pay a high annual board, have augmented in number since 1856, when the aggregate insane population was 774, or 251 less than at present. In other words, there are now one third more lunatics inhabiting the commune than ten years ago, when I first visited "Kempenland." Such facts prove the increased repute which this colony has acquired, and the more favorable opinion it has obtained among the Belgian people, as also the constituted authorities, who now transfer thither a greater number of insane patients, contrasted with previous periods. Through this large augmentation of resident lunatics, the money received at least amounts to £15,000 annually, besides various collateral sources of revenue. In truth, the town and vicinity almost exclusively depend upon such means of income, especially as the commune has little or no trade, excepting what its peculiar population may require for their necessary wants and maintenance.

During five years ending 31st December, 1865, the total insane patients admitted at Gheel amounted to 926, 500 being male and 426 female lunatics. The number of recoveries reported were 228, or 24.62 per cent., calculated according to the aggregate admissions.

the deaths were, however, more numerous, viz. 409, or 43·06 per cent.; but this large mortality may be easily accounted for by the chronic types of mental maladies which affected numerous inmates, as likewise the long period many had been insane. Besides these results, it should be also stated that a number of patients left the colony ameliorated, in addition to others removed by relatives, or the communes who had sent them to Gheel originally. According to the authority already quoted, 141 male and female lunatics, after being some time resident, left either uncured, or before they had derived benefit.

Respecting this point, and likewise to illustrate further the Gheelois system, I would refer to another instructive table, also kindly supplied by Dr. Bulkens. According to that valuable return, which comprises ten years ending 31st December, 1865, among a total of 1623 insane patients of all categories, 45, or less than 3 per 100 escaped; while 133 were subsequently removed, either from being dangerous or likely to disturb public tranquillity, and whose malady was deemed incompatible with the régime, free-air liberty, and family mode of management pursued. Remarking, however, that only 133 lunatics, or about 8 per cent. of the whole admissions, were so discharged, it cannot be consequently asserted, with justice, that any extensive or special selection of cases different from the practice prevailing at asylums was made during the period specified.

Another important feature in reference to patients received at Gheel during the same ten years, and also up to the 20th of last May, equally deserves mention; namely, the types of mental disease which were noticed among 1696 cases it comprehends, besides the actual recoveries registered under each category. By Dr. Bulkens's classification of these 1696 patients, 91 male and 127 female lunatics laboured under "melancholia," being 218 altogether, or 12·85 per cent. of the admissions. Among these, 46 males and 56 females recovered, giving a ratio of more than 46 cures per 100, or 50 per cent. in males and 44 in females. "Mania" affected 586 individuals, or upwards of one third the whole admissions; comprising 298 male and 288 female lunatics, of whom 140 males and 114 females were cured; being 43·17 per cent. in that division, or 47 per cent. in males, but only 39 in females. By "delirium" 96 patients were attacked, the sexes being equal, or 48 cases of each; among whom 17 females but only 11 males were cured, or 35·40 per cent. of the former against about 23 per cent. of the latter. "Dementia," like mania, characterised a large proportion of the admissions, viz., 242 males and 275 females, or 517 altogether, forming nearly one third the total cases received; but of whom not more than 31 males and 19 females recovered; that is, 12·80 per cent. of the former and only 8·87 per cent. of the latter sex. In short,

most of the patients thus classified were incurable, which opinion is even more applicable to the 136 cases of general paralysis then admitted, comprising 103 men and 33 women, of whom not one recovered. This remark likewise applies strictly to 143 cases of epilepsy, including 101 male and 42 female patients, seeing no case ended in convalescence. Therefore, deducting these 279 instances of general paralysis and epilepsy from the 1696 cases above enumerated, it follows that among 1417 lunatics remaining, and comprehending every other variety of mental disease, the total recoveries being 434, the general ratio of cures amounted to 30.69 per 100 admissions; while, it should be further remembered, many of the patients had remained a long time insane. But another important fact deserves also special regard, viz., among 436 insane patients deemed curable when admitted, and of whom some reasonable hope was then entertained respecting their ultimate recovery, 302, or 69 per cent., left Gheel convalescent. Such favorable results speak strongly in support of the Gheelois system, and may well bear comparison with statements given in official annual reports emanating from various public institutions for lunatics both in Great Britain as elsewhere.

Notwithstanding great freedom characterises the treatment pursued, objectors still assert that numerous lunatics residing in the colony are confined within their domiciles, often wear straps, manacles, and even have hobbles to prevent escape. In 1856, when I formerly visited Gheel, the total patients then restrained in any form were 69 among 774 lunatics at that period under treatment. During my recent visit, among upwards of 1000 lunatic patients, I learned that the daily average of persons under even temporary restraint by manacles seldom if ever exceeded 20 examples; while those who had hobbles, to prevent straying in fields adjacent, by records kept rarely amounted to five instances. But even then such patients could often promenade in the gardens attached to their dwelling; and I heard of none being confined by strait-waistcoats or analogous appliances. At the new infirmary, where seclusion-rooms have been constructed, only one patient, a female, was in temporary confinement when I inspected that recent addition to the colony; but, it should be added, this refractory case would likely so remain during a few hours. Indeed, she had speedily become tranquil after entry, and was very quiet when I visited her apartment.

The infirmary just noticed constitutes a novel feature in the improved appliances introduced at Gheel. It forms a handsome building in the immediate vicinity; has two storeys, with a frontage of fifteen large windows, and every appendage usually seen at similar structures. Indeed, the ventilation, amplitude of dormitories, courtyards for recreation, baths, sitting-rooms, with other appliances, are all of a superior description, and prove highly creditable to Dr.

Bulkens, who, along with the architect, were the chief directing authorities while it was in progress. About 60 lunatics can be accommodated as patients should their physical ailments, mental condition, or recent arrival in the colony render a lengthened residence necessary. At my visit, besides the female already mentioned under temporary seclusion, I recognised a dozen other patients, of whom several had been brought from their customary dwellings on account of bodily infirmities requiring special treatment. In addition to these objects, when a lunatic first arrives at Gheel the party is always placed in an appropriate ward, so that the type and symptoms of each individual case may be specially observed; as likewise thus to enable the superintending physician to determine, among what particular class or section the patient should be ranked. Again, whenever any lunatic became bodily diseased, or if an access of mental malady supervened which required special attention, or it was deemed advisable to place the sufferer under more immediate observation, than at a rural cottage or in town, then removal to the infirmary was ordered by the sectional physician.

The recently opened infirmary, and licensing private houses of a superior description for receiving pensioners, paying higher annual boards than formerly, constitute important changes in the improved arrangements at Gheel. Seeing this infirmary—often recommended by physicians both native and foreign—has been finally established, particularly through Dr. Bulkens's exertions, I suggested to a high official authority in Belgium that it should be designated by a name of much repute among European medical men and philanthropists. During my former visit to the various lunatic establishments in Belgium, I made an analogous suggestion respecting the new asylum then constructing near Ghent, and which was built especially under the immediate direction of Dr. Guislain, the eminent psychologist and physician. As that proposition was ultimately adopted, and the establishment is now officially called "*Hospice Guislain*," I hope a similar resolution may be taken by the Belgian authorities, so that the Gheel Infirmary shall be known in future as "*Hospice Bulkens*."

Among a community comprising numerous lunatics, the police and other arrangements must, of course, be strict and various, in order to meet contingencies. Thus, during summer months patients cannot leave their residence before 6 in the morning or after 8 in the evening; and during winter, before 8 a.m., or beyond 4 in the afternoon; while only tranquil lunatics and those who conduct themselves decently, or seem not likely to annoy other parties, are permitted to frequent entertainments and places of public resort where they can drink beer, smoke, or enjoy themselves like ordinary frequenters, unless with reference to spirituous liquors. In consequence of existing regulations, as also doubtless originating from other causes, great tranquillity prevails throughout the town; and,

speaking from my own personal observation during the period I lately remained at Gheel, as likewise when formerly visiting the colony, few towns of the same population, where the residents were rational beings, seemed to contain better conducted inhabitants, or appeared altogether so quiet as in the peculiarly constituted capital of Campine, whether at night or daytime.

During recent years, much more care has been enforced respecting the accommodation and general treatment, which insane residents should receive from host or hostess. The licences of several have been withdrawn, in consequence of not fully complying with the rules established, or through negligence towards inmates. Many new houses have also been licensed, in consequence of the augmented number of lunatics sent to Gheel. Further, as the pensioner class, who pay often larger sums than in former years, have also increased, and as those houses where inmates were comfortable now more likely obtain patients paying higher rates of board than otherwise, this circumstance has produced emulation among householders, which the authorities very properly encourage. The accommodation afforded is generally good, considering the class of patients or their previous mode of life; and the treatment indigent residents frequently receive from parties with whom they are placed, to my mind seemed often more than commensurate with the established remuneration. Nay, according to various statements, I firmly believe, were it not on account of the labour and assistance many recipients of insane boarders thereby obtain in their respective trades or occupations, having to lodge, feed, and maintain demented residents for the very small payments allowed, cannot always prove profitable, or even remunerative.

Irrespective of several other important features characterising the Gheel system, this fact deserves special notice—viz., that it becomes more easy, than sometimes at public asylums, to place patients under circumstances where they can be employed in occupations analogous to those they had pursued previously. A large proportion being labourers, mechanics, domestic servants, and the like, the authorities can at once transfer, for instance, an operative shoemaker, a blacksmith, agricultural labourer, or dairy-servant, to dwellings wherein they may be occupied much in the same manner as when enjoying good mental health. Further, being also under proper surveillance, whatever treatment is deemed judicious can likewise be adopted. Seeing a large proportion of insane residents at Gheel are agricultural labourers—indeed, they usually constitute about one fourth of the entire number—while persons employed in household work are even more numerous, besides many dressmakers and milliners, as also carpenters, tailors, with other handicrafts, it thence becomes among the ordinary Gheelois population not difficult to place lunatics with hosts where useful arrangements in that

respect can be accomplished. Still, at Gheel numerous patients are unwilling or unable to work through various causes, the proportion being about 30 per cent. in that category, which therefore leaves seventy among every hundred lunatics occupied according to their respective capabilities.

Although proceedings of the kind mentioned are easily adopted at this insane colony, impartial observers must admit, however much the Gheelois method may meet approval in many respects, and deserves imitation, it will often prove a difficult undertaking to institute an analogous procedure elsewhere, especially in localities whose general population has neither been accustomed to associate with, nor ever had any experience in managing lunatics, or imbecile fellow-creatures. At Gheel the domestic arrangements and customs are dissimilar to those in most other countries, while an experience of many centuries has rendered its inhabitants like hereditary attendants upon the insane, but which attribute is rare, or would not be easily created among any large community. Hence the obstacles which must always exist, whenever a similar colony on an extensive scale is proposed. Further, it cannot be denied, for lunatics belonging to the upper or middle classes, the discipline, employments, and mode of life necessarily followed according to the Gheelois method could be seldom enforced among ladies and gentlemen. For lunatics belonging to the lower orders the system there adopted assumes, however, quite another aspect, and is entirely free from several objections enunciated by adverse critics.

Occasionally writers entertain the opinion, that insanity is oftener met with among persons born in the Gheelois commune, than throughout districts having a sane population. Both Dr. Parigot, late of Gheel, and Dr. Bulkens especially, who has investigated the point, think such idea erroneous. Indeed, the latter says, "Mental diseases do not prevail so frequently among Gheel natives, as in various localities belonging to the province of Antwerp;" while he has likewise ascertained that, in the adjacent canton of Herenthals and Turnhout, where no lunatics are received, the proportion of insane among the native population attains even a higher ratio than characterises Gheel. Another feature should also be noticed, namely, Gheel being situated in a plain extending a great distance, and having no hills or mountains to protect it from any wind which blows, the streets are often very dusty in summer, while during winter northerly or easterly winds are not salubrious. Still, longevity occasionally prevails among insane residents, several having been patients upwards of half a century, others during forty or thirty years, and some had become nonagenarians; but I heard of no individual who could be truly considered a centenarian.

The great annual fête or "Kermis"—viz., "wake" or fair, in English—appointed for the Gheel commune, having taken place

during my stay, I was therefore able to witness the manners and customs of its general population, but more especially the effects which public festivities, ecclesiastical ceremonies of unusual pomp, much popular excitement, and the great crowds assembled from adjacent districts, produced among many lunatics who participated in the varied proceedings of the four days dedicated, in the first instance to religious duties, but afterwards to dancing, beer-drinking, and frequenting various "herbergs," estaminets, &c. On Whit-Sunday, the 20th of May, or Pentecost, St. Dymphna's church was crammed with upwards of a thousand worshippers at one time, but always changing, and of whom many had apparently come to see its gorgeous decorations, or prostrate themselves before the patron-saint's image and tabernacle containing her relics, which was now placed in the centre aisle on an elevated pedestal or throne.

Interiorly, the church was profusely decorated with flowers, gay festoons, canopies, orange and other trees, besides a diversity of ornaments specially prepared for this grand occasion. Over the saint's tabernacle, the figure of a little winged angel, having a laurel sprig in its right hand, with a crown of flowers in the left, seemed as if descending from above, in order to deposit both on the receptacle of St. Dymphna's venerated remains. High mass was also being performed by splendidly attired priests and many officials. An organ pealed forth impressive music, accompanied by numerous voices, whose singing was so good that altogether, I have seldom heard any church service better performed, even in Italian or Spanish cathedrals. Around St. Dymphna's tabernacle, numerous devotees were praying on bended knees, and appearing to invoke the saint's intercession. Many had strings of beads in their extended hands; and after praying during a few minutes, they walked round the precinct several times, but finally resumed their former kneeling position, yet still praying, although inaudibly.

At one time I counted at least twenty-five persons so employed; and whatever some critics may think of such superstitious devotions addressed to what seemed only a covered box, but said to contain the relics of an Irish maiden, none can doubt the sincerity of feeling actuating parties who appeared thus to pray for their own recovery, or of mentally afflicted relatives. After making these genuflexions, generally three times, but occasionally oftener, a number went next before an image of the Virgin Mary having Christ in her arms, both gorgeously apparelled, with jewelled crowns on their heads, and placed under an elegant canopy, having bouquets of flowers around, to perform further devotions.

Subsequently, many of the same individuals also worshipped at St. Dymphna's image, much after the style enacted near her relics. As additional indications of the veneration entertained respecting the martyr whose shrine had here attracted such crowds, the numerous

silver offerings attached to her attire unmistakably demonstrate, whilst indicating the great ignorance prevalent among a Campine populace. Moreover, in order that such sentiments might not be forgotten, or perhaps to proclaim the saint's merits, on the border of her bespangled velvet robe this inscription was embroidered in golden letters so large as to make the words easily readable by even distant spectators—viz., "*St. Dymphna, Hoop der Krankzinnigen*" (St. Dymphna, the hope of lunatics).

Sceptics may ridicule the absurd notions actuating apparently numerous persons assembled in St. Dymphna's church at this day's festival, which lasted several hours consecutively. That view is, however, incorrect, seeing various individuals who had taken part in the ceremonies acknowledge, they purposely visited St. Dymphna's Church, to pray for the saint's intercession in favour of afflicted relatives or patients in the colony. Among several instances of this description, I may mention that of a Belgian serjeant whose insane wife had been some time in the commune. This otherwise intelligent soldier, although admitting the kind treatment received, nevertheless felt faith in St. Dymphna's influence, and had specially visited her shrine on the present, as during a former occasion, in order that he might, by imitating other devotees, promote his wife's convalescence.

At St. Amand's, the chief or communal church of Gheel, a great crowd was likewise assembled, its interior being also profusely decorated with flowers, flags, orange-trees, and numerous ornaments, at the same time that high mass and so-forth was performed. There, as at St. Dymphna's, I recognised various lunatics who, both in this and the former sacred edifice, conducted themselves like rational beings. However, as the services were purely ecclesiastical, although conducted in grand style and really pompous, while many fashionably attired ladies were noticed among a very crowded congregation, no ordinary observer, ignorant of the fact, would have surmised that a number of persons then present were actually insane. Indeed, I have scarcely or ever observed more decorum than that which uniformly prevailed during my protracted visits to both the churches designated. Considering the multitude of persons congregated, the consequent pressure occasioned by many people anxious to get near, and the lengthened period they virtually remained, it is no exaggeration to say, the quietude and order which everywhere prevailed were remarkable.

Next day, or Monday, similar services again took place at St. Dymphna's and St. Amand's churches; while the number of kneeling worshippers near the martyr's sarcophagus was even larger than the previous day, or Sunday. On this occasion, the silver receptacle of the saint's bones was now uncovered, which may account for the much greater crowds who were constantly surrounding, and evidently

contemplating with deep devotional feelings, what was really a splendid specimen of art in the form of a temple, and which, from its size as also elaborate workmanship, must have been very costly. Apparently, many of the votaries present had come from some distance in order to invoke St. Dymphna's aid in favour of a demented relative or friend; while others were patients, as on the day previous. Here, again, and throughout the whole time I remained, the greatest order prevailed; and no one could have inferred from outward appearances, or the behaviour of any individual, that lunatics formed a portion of this large assemblage.

Another phase of quite a different character yet remains to be described, so as to illustrate still further the popular proceedings and festivities in which sane as likewise insane residents of Gheel, with other spectators, took an active part during its kermis. Soon after five in the afternoon, accompanied by Dr. Bulkens as cicerone, we visited several "herbergs"—estaminets which had large rooms attached, where many persons previously engaged in religious services at St. Dymphna's and St. Amand's churches were dancing, or drinking beer; while gay music and talking of numerous parties made the whole scene highly exciting, but not disorderly or uproarious. In one spacious apartment, at least 300 persons were assembled—several being lunatics—who seemed to enjoy the spectacle quite as much as any party present, and conducted themselves like their more rational companions at this reunion. Indeed, had my conductor not pointed out several male and female insane residents at Gheel, I should not otherwise have known any patients were in that festive assembly. We afterwards visited other dancing parties, where much hilarity also prevailed; but in no instance could I recognise by their conduct that any guest laboured under mental aberration. Similar amusements took place next evening, while there was a grand procession of St. Dymphna's relics within her church and vicinity in the forenoon; but everything went off satisfactorily. At least, I have not since heard of any conduct which indicated that the varied proceedings peculiar to the annual kermis then celebrated had caused unpleasant consequences among the Gheelois lunatic population.

In concluding my sketches of the insane colony at Gheel, which some gentlemen whom I have the honour to address may perhaps think rather discursive, I would nevertheless beg leave to remark finally, whether frequenting the dwellings of resident lunatics, perambulating streets, visiting churches, sauntering in secluded high-hedged footpaths, gardens or fields; and notwithstanding I often recognised insane patients as well idle as occupied, even sometimes without an attendant, I never noticed any unpleasant occurrence. On the contrary, I can confidently assert, from personal observation, Gheel and its immediate neighbourhood seemed generally quieter, than most localities having an equally numerous population, more

especially where lunatics seldom if ever promenade public thoroughfares. Consequently, the idea of their residing in a town where mad people were numerous, and lived almost like ordinary inhabitants, appeared to my mind of doubtful realisation.

The Effects of the Present System of Prison Discipline on the Body and Mind. By J. BRUCE THOMSON, L.C.R.S., Edin.; Resident Surgeon, General Prison for Scotland at Perth.

(Read at the Annual Meeting of the Medico-Psychological Association, held in Edinburgh, July 31st, 1866.)

MR. PRESIDENT,—My first duty on rising to address this Association is to thank you, sir, personally, for your kindness in proposing me, and the members for electing me, to the honour of being a member of the Medico-Psychological Association.

This paper is due chiefly to your own suggestion; and I do now feel that it was somewhat bold in me to accept your hint, and venture upon an inquiry so difficult, and of such paramount social and psychological interest. I hope the subject may be found not altogether aside from the proper functions of this learned body, as I certainly regard it opportune for my having the benefit of any opinions that may emerge in the minds of those I now address, many of whom are eminent for ability and experience in mental diseases so prevalent in prison life.

Can long sentences to penal servitude in prisons be carried through without serious detriment to the bodily and mental condition of prisoners? This was the proposition propounded only a few years ago, when the transportation of convicts was set aside, and the present system, called the separate system of prison discipline, was introduced. In this paper, what I propose is, to examine the results of this sanitary experiment; and how far we are enabled to judge of its success and solve the grave problem as to the effects of long imprisonment on body and mind. The study of the character and diseases of the criminal population has become a specialty confined to but a few; and I feel it all the more incumbent to tabulate my observations, which have been continuously given to the subject for nearly ten years.

Physical suffering, as you know, for the last quarter of a century has been almost wholly ignored in prison discipline. Howard and Romilly did for criminals what Conolly and Pinel have done for the

insane; and the benign influence of criminal legislation has long been and still professes to be chiefly reformatory—curative rather than punitive—on the principles long ago enunciated by Cicero: “*Omnis et animadversio et castigatio contumelia vacare debet. Prohibenda autem maxima est in puniendo.*” Legislation has been, like Penelope’s web, a system of doing and undoing; but, however much social reformers may differ as to the physical punishments of prisoners, I think that you will all agree as medical men that it is our duty to return the criminal to society as well in body and mind, if possible, as when he entered upon his sentence of imprisonment.

I have said that the study of prison life is a specialty, and it seems to me, therefore, necessary that I should offer you a few prefatory remarks on criminals as a class distinguished peculiarly from civilians.

All who have seen much of criminals agree that they have a singular family likeness or caste. Prison officials and detectives know them at a glance. An accomplished writer who is well qualified to speak on this subject says, “I believe I have looked as many scoundrels in the face as any man alive, and I think I should know all such wherever I should happen to meet them. The thief appears to me as completely marked off from honest working people as black-faced sheep are from other breeds.” In this statement I quite concur.

Their *physique* is coarse and repulsive; their complexion dingy, almost atrabilious; their face, figure, and mien, disagreeable. The women are painfully ugly; and the men look stolid, and many of them brutal, indicating physical and moral deterioration. In fact, there is a stamp upon them in form and expression which seems to me the heritage of the class.

“The physical, being,” as I take it, “the foundation of the moral man,” the criminals as a class exhibit a low state of intellect compared with the industrial classes. A large proportion of prisoners, as I shall afterwards show by figures, are weak-minded congenitally, and give a large proportion of insanity compared with the civil population. I know this is in the face of popular prejudice, encouraged by the drama and sensational romance, which makes heroes of criminals, endowing them wondrously—as some one said, “with rare abilities, of which God has given the use and the devil the application.” These are drawn from exceptional cases for dramatic effect. On the contrary, teachers say prisoners are slow to learn. Officials find it a hard task to train them to the plainest industrial work. Taste in any art or mechanical ingenuity we seldom see among them. Sir W. K. Shuttleworth observed, what is plain to all intelligent observers, that the juveniles at Parkhurst were defective in

physical organisation—from hereditary causes, probably, and early neglect and privation.

These remarks *in limine* on the characteristics of the criminal class it is necessary to carry along with us in our inquiry as to the effects of imprisonment, so as to judge what belongs to caste and what to imprisonment.

It seems necessary to premise also a few words *on the separate system of discipline* in present operation.

The *separate* is a modification of the *solitary system*, which has been everywhere almost wholly abandoned as injurious to the mind. It is singular enough that Howard, the great friend of the prisoner, and true philanthropist, was himself the author of the solitary system, the most severe of all penal systems. The object was to prevent the evils of association; but insanity was the frequent result.

Even the original separate system has been much modified. At first, the prisoner was strictly confined to his cell, which was his workshop and dormitory. He had little or no communication with officers. The exercise was short, and in isolated cages under absolute silence. A mask was worn to avoid personal recognition. The chapel was cellularly divided; or the chaplain stood in the corridors of a gallery, each prisoner only hearing, not seeing him, through the cell-door upon the bolt. The food was passed through a small service door, so that even the warder was not seen. Two purposes were aimed at by this—viz., entire isolation, and seclusion to encourage self-communion and lead to reform.

As you may well believe, it was not long until relaxations were called for of the severities of separation. After a confinement of nine months male convicts, and after twelve months female convicts are partially associated. Exercise is had more freely in open airing-grounds. The chapels are not cellular, but open-seated. Masks are abolished. Warders see and speak to prisoners at least twelve times daily. Silence is not strictly enforced; and medical officers have free power to associate all who are regarded unfit to bear the separate system: such are juveniles, epileptics, weakminded, and suicidals, Highlanders who cannot speak English, and all the sick.

I hasten to consider now—

- I. *The effects of the separate system of prison discipline on the body.*
- II. *The effects upon the mind of prisoners.*

I. *Of the general health, sickness, and death-rate of prisoners.*

The general health has of late been very good in Scotland, especially during the last decennial period. During the decennial period 1844 to 1853 it was not so. General debility, scrofula, and scurvy were found to prevail among our prisoners, in consequence of a de-

fective dietary. The truth is, the dietary of prisoners must be good for two obvious reasons; their systems are deteriorated by hereditary and habitual vices; and in prisons, the same amount of assimilation of food does not take place in imprisonment as in freedom. This latter, I suspect, applies to asylum and hospital patients generally.

I am satisfied that a bare minimum of subsistence is a dangerous allowance to prisoners, and a liberal dietary is the truest economy in prison. Hence, during the decennial period 1854 to 1863, an improved dietary proved more economic than the lower dietary, there being reduced sickness and death-rate, and, consequently, more labour from prisoners. A good diet and careful hygiene, also, I think, help to explain our singular exemption from epidemics.

A table before me shows all the cases of disease (noting the diseases) which occurred during the decennial period 1856 to 1866, inclusive, in the General Prison for Scotland under my charge.

The total ten years' population was 646, of whom 1 out of 72 were placed on the sick register; the sickness being, therefore, at the rate of 14 per cent.

The prison rule for registering sickness is, "The surgeon shall enter in his register every case of illness which is sufficient to prevent a prisoner from working, or which is infectious."

A few months ago, in a joint report by Professor Christison and myself, the following statements in regard to our death-rate and sickness of prisoners in the different prisons of Scotland are given:

"In consequence of an improved dietary during the last ten years, the death-rate (notwithstanding the substitution of long imprisonments for transportation) has fallen from 1.41 to 1.15 per cent.

"Diseases from defective nutrition have disappeared.

"Diseases contracted *after* admission to prisons have decreased from 27 to 15 per cent.

"Prisoners off work from sickness have been reduced from 4 $\frac{1}{2}$ to 3 $\frac{1}{2}$ days on the total average daily prison population.

"The amount of sickness has fallen from 65 to 45 per cent. over all Scottish prisons."

To this very favorable account of the general health, sickness, and death-rate of prisoners, I must offer some exceptions.

1. Juveniles and those at the growing periods of life suffer much from stiffness of limbs; and a standing rule is, to associate all under fourteen years of age, and even sixteen, the governor and surgeon concurring; also juveniles are drilled to military manœuvres and exercises, as precautions against stiffness of limbs.

2. *Untried prisoners*, partly from their recent dissipations, and partly from being tossed betwixt hope and fear as to their trial and sentence, fall off, but revive again after their trial.

3. Convicts, a few months before liberation, become anxious,

sleepless, and lose health and strength from their anxieties as to the future. Convicts say the most irksome period of imprisonment is immediately preceding liberation.

4. Out-door labourers, shepherds, poachers, fishermen, as a general rule, fall off under imprisonment.

I am bound further to make this general observation, that more or less in all prisoners there is a slow and torpid state of the locomotive organs (partly, perhaps, mental), which seems to be the result of seclusion.

Upon the whole, the foregoing facts and figures satisfy us that the effects of imprisonment do not materially injure the body; but rather that the general health is well sustained, and certain diseases, phthisis and scrofula, are ameliorated or arrested. I look upon the hygienic and sanatory treatment of prisoners as one of the best triumphs of medical science; and looking to the condition of paupers when contrasted with prisoners, I do not wonder that some have sneered at our care of criminals, like Rochefoucault, when he says, "Il s'en faut bien que l'innocence trouve autant de protection que le crime."

II. *Effects of imprisonment on the mind.*—What I have advanced seems sufficient to relieve all anxiety as to the effects of imprisonment on the mind. But, remembering the effects of the solitary and silent systems, of which the separate is but a modification; keeping in view the necessary ameliorations lately introduced into the separate system; and further, considering the sources, physical and moral, of insanity belonging to the criminal class—there appears a foregone conclusion that there is danger to the mental condition from the separate system of prison discipline.

Let me bring before you figures showing the amount of mental disease which is found to prevail in the General Prison for Scotland, and compare this with the ratio found among the civil population.

I observe that among criminals there is a large amount of weak-mindedness, not regarded as insanity, viz.:

Prisoners weakminded, but not in the lunatic department—of two kinds: *Separate*, but under special observation; *not separate*, but whose mental condition does not bring them within the category of the insane.

Perhaps there are few see so much of this class as I do of various grades, verging upon and lapsing at times into insanity, reminding one of Hamlet's description of falling

"Into sadness—then into a fast;
Thence to a watch—thence to a weakness;
Thence to a lightness; and by this declension,
Into the madness wherein madmen rave."

Here is a decennial table, 1856 to 1865, showing the number of

those *associated* as unfit to bear the separate system of imprisonment:—

	1856	1857	1858	1859	1860	1861	1862	1863	1864	1865	Total.
MENTAL CONDITION—											
Imbecile or Weak-minded...	22	34	14	21	20	16	26	13	17	15	198
Ditto, and Suicidal	3	2	2	4	7	9	6	2	4	1	40
Epileptic	4	7	4	11	2	7	13	6	15	7	76
	<u>29</u>	<u>43</u>	<u>20</u>	<u>36</u>	<u>29</u>	<u>32</u>	<u>45</u>	<u>21</u>	<u>36</u>	<u>23</u>	<u>314</u>

For the last decennial period, we have had at the average of forty per annum who, in addition to the above, have been placed under special observation, expected to suffer from separation.

We have therefore had

<i>Associated</i> , as unfit for separation	314
<i>Separate</i> , but specially observed	400
Total	<u>714</u>

The average daily population having been 6468, or 646 per annum, we thus show that mental weakness (but not insanity) belonged to about 11 per cent. (nearly 1 out of every 9) of the general prison population. This is probably much within the actual mark. In a paper I lately published in the 'Edinburgh Monthly Journal,' being an analysis of fifty-nine epileptic prisoners' cases, it appeared that all, with the exception of fourteen of these, were noted for mental weakness; that prisoner epileptics were 1 per cent. of the prison population, while the ratio in civil and army populations was estimated at a mere fraction of this, viz., 0.009.

I proceed to give a table of the *number of prisoners who have become insane* in the General Prison during the last decennial period:

	1856	1857	1858	1859	1860	1861	1862	1863	1864	1865	Total.
From the General Prison...	2	4	4	6	6	4	2	3	3	9	43

In the form of an equation this gives—

$$\begin{array}{lcl} \text{The average daily population} & \dots\dots\dots & 6468 \\ \text{The number becoming insane} & \dots\dots\dots & 43 \end{array} = \frac{1}{150}$$

One out of every 150 became insane during the last ten years. The average daily population I speak of is the sum of all who during the year have passed through the prison divided by 365. I should add that I am aware of several who went out of our prison weak-minded, and shortly afterwards went to asylums; so that 1 out of 150 is probably a small enough calculation of those becoming insane under imprisonment.

Let me extend this inquiry beyond the General Prison for Scotland, and show as near as I can the number of existing insane

among the total prison population of Scotland. The criminal lunatics of Scotland are nearly all placed in the lunatic department of the General Prison for Scotland, under the authority of the Secretary of State and during Her Majesty's pleasure.

Some years ago, the Medical Superintendents of Asylums objected to the reception of criminal lunatics. It was not considered fair or favorable to insane patients that they should be classed with criminal lunatics, many of whom had committed heinous and violent crimes; and the Medical Superintendents objected to come under the obligation called for by the Secretary of State, to keep the criminal lunatics in "close and safe custody"—a condition not only highly responsible, but detrimental to the curative treatment of milder and ordinary cases, admitting of considerable freedom within and even without the asylum precincts. Lunatic asylums, therefore, being found unfit places of detention for criminal lunatics, the late General Board of Directors of Prisons made arrangements, under statutory powers, for the present lunatic department of the General Prison to be fitted up for the custody, treatment, and maintenance of all criminal prisoners unfit to be brought to trial, found upon their trial to be insane, or at the time of committing the offence charged; also prisoners who have become insane while undergoing punishment. The hospital for lunatics was opened in October, 1846, and contains, with few exceptions, all the insane belonging to the criminal population.

The following shows the existing insane in the lunatic department for criminals during the last five years:—

	1861	1862	1863	1864	1865
No.	33	34	34	40	51

The entire prison population of Scotland, annually averaged for the last five years, amounted to 2,316; and the above would show—

$$\begin{array}{l} \text{Annual average number of criminal lunatics} \quad 38 \\ \text{Number of criminals} \quad \dots\dots\dots 2316 \end{array} = \frac{1}{60}$$

One out of 60 *existing* criminal insane.

Criminal insanity is on the increase, however, and my report of 1865 shows—

$$\begin{array}{l} \text{Criminals insane} \quad \dots\dots\dots 51 \\ \text{Total criminals of Scotland} \quad \dots\dots\dots 2416 \end{array} = \frac{1}{47}$$

One out of 47 existing criminal insane, as reported for 1865.

Compare this ratio with what is found in this and other countries. The materials are by no means satisfactory, but I offer some of them:

In France the number of lunatics has been recently estimated at	1 in 1028
In England and Wales at	1 in 824
In Scotland, about	1 in 473
In Ireland, at	1 in 1291

The lowest calculation for England I have ever met with is made by Drs. Bucknill and Tuke in their work on 'Psychology,' which is an estimate made by adding a supposed number of lunatics and idiots to the reported number given by the Commissioners in Lunacy; and this lowest estimate supposes that 1 out of 300 is the ratio of insane to sane in the population of England.

The foregoing prison statistics lead to the following conclusions:—

1. That weakmindedness is very prominent in the criminal population as a class.
2. That in the General Prison for Scotland about 1 out of 9, or about 11 per cent. are weakminded.
3. That epilepsy shows a much larger proportion among prisoners than among the army or civil populations.
4. That prisoners are noticed *on admission* in considerable numbers to be weakminded; rendering it doubtful whether their mental peculiarities are the result of hereditary influences, or may be due to the seclusion of cell-life and frequent imprisonment.
5. That individual prisoners (not of the criminal class) suffer much mentally from the seclusion, want of intercourse, and inaction of mind as well as body under the separate system of imprisonment; these effects being shown chiefly in juveniles, foreigners especially, and Highlanders, who cannot converse in English, and those generally who do not belong to the criminal class.
6. That the ratio of those who become insane in the General Prison for Scotland has been 1 in 150.
7. That the existing criminal insane have been, during the last five years, at the ratio of 1 out of every 60 of the prison population in Scotland; and in 1865, 1 in every 47 of the prison population were criminal lunatics; *i. e.*, existing at the time.

The important corollary from these statistics is, that, with all its recent relaxations, the separate system of prison discipline is trying upon the mind and demands the most careful attention on the part of medical officers, inasmuch as mental diseases are most prominent among criminals in prisons, and seem to be on the increase.

I bring forward these facts and figures asking for further inquiry and regular statistical information from the surgeons of English convict prisons, especially on two points:

- a. What is the proportion of insane (becoming insane or existing insane) among the criminals of England?
- b. What proofs, if any, are there of this insanity being the result of imprisonment?

These statements seem to me extremely interesting, and I should like your free comments upon them.

The number of weakminded renders it probable that much crime,

when committed, is done by persons labouring under mental disease, crime and insanity having clearly a natural alliance which puzzled the old classic philosophers as well as modern psychologists, in regard especially to the question of responsibility. "A knave is always a fool" says the proverb; and Hale had an axiom, that "all criminals are insane." It has almost been asserted in as many words by eminent psychologists, that "all murderers are insane." Without going this length, I must admit that I am satisfied that, as a class, criminals are extremely liable to mental disorders and diseases, apart altogether from imprisonment.

Hear the divine Plato on this subject:—"All *disgraceful conduct* is not properly blamed as the consequence of voluntary guilt; *for no one is voluntarily bad*; but he who is depraved becomes so through a certain habit of body and ill-governed education. All the vicious are vicious through two most involuntary causes, which we always ascribe rather to the planters than the things planted, and to the trainers rather than those trained." Such doctrines, whatever truth may underlie them, are not tenable to the extent which this philosopher held; otherwise we must in a great measure set aside all moral responsibility.

Paralytic Insanity and its Organic Nature. By Dr. FRANZ MESCHÉDE. Abridged from 'Virchow's Archives,' 1865, by G. F. BLANDFORD, M.B. Oxon.; with a Prefatory Note.

THE disorder commonly called "general paralysis of the insane" presents so many points of interest to the pathologist and the physician, that as a necessary consequence it forms the commonest topic among the writings of those who specially study insanity. But after so much observation and so many treatises, it is disheartening to find that even now scarcely more than one fact with regard to it is laid down as settled and established beyond the possibility of doubt. One there is, the saddest that can be. It is, that for this malady we hitherto have found no cure; that to diagnose it is to pronounce the sentence, not only of incurable insanity, but also of speedy death. The marvel of the whole is, that although death occurs in every case at no very distant period, though post-mortem examinations of general paralytics are made by hundreds every year in this and other countries, yet even at this day no two observers are agreed as to the pathology and morbid anatomy, as to the part in which it has its origin, or which constitutes its peculiar and proper seat. No

wonder that the whole of the morbid anatomy of insane brain is vague and ill-defined, when this, the specially fatal form of mental disease, still hides itself from us—still wraps itself in the mystery which envelopes all that relates to mind. I make no apology for drawing the attention of the readers of this Journal to a paper on the subject, published in the October and November numbers of 'Virchow's Archives,' 1865, and for giving a short and necessarily imperfect summary of its contents, it being too long for reproduction. But as every outline must needs be unsatisfactory, I trust my readers will go themselves to the original. In default of opportunity of examining many brains of paralytic patients, I present as a contribution to the English treatises on the subject these observations of another.

First of all, however, I wish to make a few remarks; one upon the nomenclature of this disease, and especially upon the new name lately bestowed upon it. This, "general paresis," was introduced to us by Dr. Ernst Salomon, a translation of whose paper appeared in this Journal in 1862. Paresis is not a new word; it is an old medical term familiar to the readers of the 'Zoonomia' and other works of that time. In barbarous Latin, worthy of the days of Sprenger rather than of the era of the microscope, Dr. Salomon explains paresis as "insania paresans," "paresifying mental disease." At the same time, he enumerates a great many but not all of the synonyms of various authors. The term most universally known, which has been, we may almost say, officially adopted, is the time-honoured "general paralysis," or "general paralysis of the insane." There needs some strong reason for changing this. The name we substitute ought certainly to be a better and not a worse. But is there a single reason why paresis should be preferred to paralysis? Is there any meaning of the verb *παρίημι* which squares with the symptoms of the disorder more than that of the verb *παράλυω*? Physicians in ordinary practice, who have seen with me patients in the earliest stage of the disease, have objected to the term "general paralytic" as inapplicable to men who showed no diminution of bodily strength. Yet the only meaning which paresis has which makes it in the slightest degree available is that of *slackness* or *weakness*. And not only is this word substituted for general paralysis, but it is applied to ordinary hemiplegia, being usually converted into *pareesis*. An old gentleman the other day lost the use of one side, and I was rebuked by the family for calling his malady paralysis, and told that the most eminent of the faculty had pronounced it to be only *pareesis*. But are there no other names? If we object to the term "general paralysis" as vague and unscientific, must we go back a hundred years and rout out a disused word from the garret of our great-grandfathers, and apply it to a new disease unknown to them? We generally give M. Calmeil the credit for

having first fully described the disease with accuracy and clearness. No work even now surpasses his own, or that part devoted to it in his treatise on the inflammatory diseases of the brain. M. Calmeil denominates it "periencephalite chronique diffuse." Here we have a definite appellation, almost a definition. It conveys a pathological theory, true or false. It would be well, I think, to adhere to such a term as this till we have reason to reject the theory and can substitute another and a better in the place thereof. I have seen it stated that M. Calmeil considers it to be a meningitis. Dr. E. Salomon says, "Calmeil makes it a peri-encephalo-meningitis chronica diffusa." Calmeil does nothing of the sort. In his '*Maladies Inflammatoires*,' i, 486, he says distinctly; "Sans nier l'influence réactive que l'état inflammatoire des méninges est à même d'exercer sur les centres nerveux encéphaliques, dans les cas où se manifestent les symptômes que nous venons de passer en revue, nous croyons bien plus rationnel de les attribuer principalement à l'état d'inflammation permanent où se trouve elle-même la substance corticale des hémisphères cérébraux." The article of Dr. Meschede of which I propose to give a summary will bring strong testimony to corroborate this view of M. Calmeil, and will vindicate the propriety of still maintaining the name he has originated, viz, "periencephalitis chronica diffusa."

Much discussion has arisen as to whether the symptoms of general paralysis are simply added to ordinary insanity—epiphenomena, as they are called—or whether it is altogether a distinct and special disease. Here it would seem that we are drifting back to old doctrines, according to which diseases are to be looked upon as entities. If we put aside the question whether general paralysis be or be not a special disease, and consider only what that is which is diseased, what is the "pars affecta," we shall arrive at greater certainty.

The readers of this Journal do not require to be told that the "pars affecta" in general paralysis and in non-paralytic insanity is one and the same. We may arrive at this conclusion apart from the post-mortem examination of diseased brain. The symptoms of the two forms in life will indicate, I think, that the seat is the same, and will aid us in interpreting the pathology of the disorder. Although, speaking generally, the exalted notions, the *délire ambitieux*, stamp with a certain distinctiveness the mental disorder in general paralysis, as the stammer marks the bodily affection, yet it is not to be forgotten that in many cases these are both absent. On the other hand, there is not a single delusion of ordinary insanity that we do not find in paralytic patients. "Believes himself given over to the devil"—"Thinks poison is put in his food"—"Believes he has committed sins too enormous to be forgiven"—"Thinks he is going to be arrested." These are from four cases of general paralysis. And in cases of ordinary curable mania we constantly find

exalted delusions of being kings, inventors, millionaires. All this shows that the line of demarcation between ordinary insanity and general paralysis is excessively fine, and the whole history and progress of the latter points rather to a difference in degree than in kind. That general paralysis is intractable, *malignant*, is the one fact we are certain of. Probably the distinction between it and other curable forms of insanity is analogous to the difference between certain innocent and malignant growths. There is a tendency to depart more or less from healthy structure. This tendency in some is strong, and the growth is malignant; in others it is weak, and the new formation is not so far removed from what is normal, and if excised does not return.

It may be objected that the paralytic symptoms, the inarticulate speech and quivering lips, point to a different seat of disease. It may be said that in ordinary mania there are no paralytic symptoms, that in progressive dementia following upon mania there is no loss of muscular power. These objections do not, I think, point to any different seat of disease, but only to a gradually advancing degeneration and decay of the parts originally attacked. That these parts are the same in both ordinary mania and in general paralysis, seems indicated by these considerations:—

1. General paralysis constantly exists, and is evidenced beyond any doubt by the mental symptoms without any perceptible defect of articulation or other lesion of motility. This is a fact which must be familiar to all my readers, and I therefore shall not stop to adduce cases. It constitutes one of the difficulties of diagnosis in this class of patients.

2. The defect connected with the inarticulate speech seems as if it lay in the highest nerve-ganglia which impel the muscles and supply force to them along the conducting fibres. The fault lies at the origin, not in the course of the transmission, not in the transmitting organs. This appears if we closely examine the phenomena of the defective articulation. The patient by an effort can correct it. When he exerts himself—when he shouts, for example, he speaks clearly. I am now speaking of the early stages. When, by a violent effort of will, he forces all his nervous energy in one direction, he does that which he wishes to do. The defect appears to be in the nerve-centres which supply the volitional power. And this will account for the absence of unilateral symptoms, which are often absent throughout, and which, when they are found, are chiefly the sequelæ of apoplectiform or epileptiform attacks. Up to the last, many patients seem to have nothing the matter with their limbs and muscles except a deficient supply of force.

If we take other forms of abnormal muscular action, we may find in a similar way that the defect arises not in the parts themselves or in the conducting nervous organs, but in what we must call the

highest mental originators of nerve-force. An instance is at once suggested by general paralysis. This is ordinary stammering. In spite of all that has been said about the action of the laryngeal muscles, &c., it is now, I believe, generally held that stammering depends on mental emotion; that the mental centres are the seat of the disorder, and that to avoid it we must, as Dr. Carpenter says—

1. Reduce mental emotion;
2. Avoid exciting mental emotion;
3. Elude mental emotion.

This has been well urged by Dr. Monro in a pamphlet entitled ‘Stammering and its Treatment,’ by Bacc. Med. Oxon., 1850. General paralytics do not stammer always—do not always lisp over the same word. This would appear to be an affection of a very high nervous centre. And probably the same may be said of some forms of chorea. Certainly it may, of all the quiverings and shakings that depend on terror or the like. Poor *Aeneas* says—

“Obstupui, steteruntque comæ, et vox faucibus hæsit.”

3. Another reason for thinking that the seat of the disease we call “general paralysis” is identical with ordinary insanity, is that the cause is so often the same. Although it sometimes appears as if the former were more often due to physical causes than the latter—due to drinking, sexual excess, and the like,—yet it very frequently is clearly attributable entirely to mental causes. Dr. Sankey gives several cases, and every one will recollect some such. Now that great mental emotion is capable of producing not only ordinary insanity, but actual organic lesion, whether of general paralysis or of other kinds, is a fact, I believe, much overlooked. We are so apt to think that organic lesion is the cause of the mental derangement, that we overlook the fact that mental disturbance may produce organic lesion. Yet, while writing this, I happened to take up the May number of the ‘Medical Mirror,’ which contains a case related by Dr. Broadbent:—“A servant-girl, æt. 24, in perfect health, goes for a holiday on September 24th to the British Museum: she meets her sweetheart walking with another woman; a violent scene ensues, the young man tearing a brooch containing his portrait out of her shawl. Next day she fretted very much; on the following day she became violent and delirious—in fact, maniacal. She then fell into a state of stupor, and was admitted into St. Mary’s Hospital on the 29th. She evidently heard and saw, but all the mental faculties were oppressed. No paralysis. She was noisy all the night. Next day she was delirious, constantly talking; not answering when spoken to. On October 2nd she became rather suddenly comatose, and died. P.M. exam.—The convolutions appeared to be slightly flattened, and the surface of the hemispheres was paler and the veins less full than usual. Brain-substance firm and pale: in the left hemisphere, external to the thalamus and corpus striatum, and slightly

above their level, was found a very large recent clot, estimated to weigh at least an ounce." Here we have a healthy young woman dying very rapidly of an apoplectic clot after violent emotional excitement at an age when apoplexy is rare, especially in women. There was no paralysis, and the symptoms throughout were mental as well as the cause. This case seems valuable to those who are considering the relations of functional and structural disorder in mental diseases. General paralysis, then, may begin in the same centres as ordinary insanity, and be produced by the same causes; but it may go on progressively till it causes degeneration and destruction of those parts—not remaining stationary, like chronic mania or dementia.

One word as to the nature of the disease. Not long ago, general paralysis was considered an inflammatory affection, and treated as such by the remedies then supposed to be efficacious in such cases. I have seen many patients treated by a course of bichloride of mercury, but without good result. It is possible, however, that the theory was more correct than the mode of treatment. General paralysis seems to be the peculiar degenerative inflammation of the cortical part of the brain, ending in total annihilation of the life—that is, the functional activity—of the part. It seems as if each of the viscera has its own peculiar degenerative disease; other disorders, as cancer, tubercle, abscess, &c., being more or less incidental and depending on extraneous causes. Thus, the liver has its proper disease destroying its excreting and secreting function. So have the spleen and the kidney. Dr. Salomon has noticed the analogy between general paralysis and Bright's disease. And probably the adhesion of the capsule of the kidney, the tearing of the granular surface, and the disappearance of the cortical portion, may have suggested a comparison even to superficial observers.

When we say that general paralysis is an inflammation, we must clearly understand what we mean by this. In Mr. Simon's admirable article in Holmes' 'System of Surgery,' we read that "the phenomena of inflammation are modified phenomena of textural life. There is an excess but an incompleteness of textural change, shown, on the one hand, by effete material unremoved, softened and degenerated tissue; on the other, by nascent forms unapplied, which have either perished before maturity, or definitely ripened into mere abortions of texture." And further he says, "The action whereby inflammation begins is one which physiologically cannot be distinguished from hypertrophy. The line of distinction is drawn where the effort of hypertrophy becomes abortive, and where the forms of increased growth are mixed with palpable refuse of increased decay. Cancer and inflammation have the most intimate morphological affinity; and probably what is distinctive of cancer lies far less in the nature of its textural phenomena, than in the

hitherto unknown causes which give them their fatally continuous progress."

A nodule of cancer continues to spread, returns where excised, and progresses till it destroys life; while a similar non-cancerous nodule is removed, and does not return. The cause of the ineradicability of the former, however, is not explained by any known laws. In the same way, the hyperæmic and hyperactive condition of the brain in simple acute mania subsides, perhaps recurs, subsides again, and so on; while the hyperæmic condition of general paralysis leads us at once to textural change and death. But we cannot as yet discriminate the origins of the two conditions. Truly we may call general paralysis the malignant disease, the true *morbus maleficus* of the gray matter of the hemispheres.

I have presumed to offer these remarks as a preface to the summary of Dr. Meschede's paper. His strictly inductive observations serve to test the accuracy of these views, which are as much deductive as inductive. The whole, I think, points to that unity of disease which modern science teaches, rather than to the special entities which diseases were thought to be in the days of nosological classifications. Specific remedies are almost abandoned: probably specific diseases will share the same fate.

I now proceed to the article by Dr. Meschede.

I. *General view of the disease.*

General paralysis appears to have greatly increased during the last ten years. It is interesting to us, because it chooses its victims as a rule from amongst the males of the better classes; it prostrates those organisms which appear the strongest, and at a time when they are at the height and zenith of life and activity. It is a problem worth solving, the discovery of the nature, causes, and cure of this fatal disease, which is as yet a psychological puzzle.

While the mental powers are sinking to destruction, the self-feeling swells to a pitch of grandeur. The patient, as he declines to the condition of the brutes, feels himself lifted up to the dignity of a god, thinks himself God and above God. The phenomena of a violent storm pass before our eyes, agitating the depths of the mind with fierce eruptions and never-ceasing force. Sometimes the symptoms are milder; the mind-organ wastes with less sparkling glow. The victims of this form appear in a state of beatific rest; their life floats on as in an Olympus of the happy. If we only observed these easy dreaming "emperors of the world" and "higher gods," we might be inclined to look on the disease as an exquisite passive atony, to deny the first active symptoms, and to consider the image of an overwhelming storm as an extravagant phrase—only that suddenly outbreaks of mania flash out to tell us that

even here a consuming fire still burns under this covering, and carries on slowly, but surely, the work of destruction.

Certain epochs in this work of destruction are prominently marked out by the attacks of paralysis, in which the patient suddenly collapses in convulsive movements in the midst of the apparent harmony of his existence. In cases running an acute course, these attacks come on in the height of the fury, after the rush of ideas and the tempest of emotion have been getting more and more intense for some days. But even in the more chronic cases they give notice of their advent by an increased agitation, and are accompanied by a heightened temperature and unmistakable signs of cerebral congestion. With and after each attack, the mental and bodily strength declines. The motor powers are impaired so that the central influence is withdrawn, and inharmonious irregular muscular movements follow. Parts of the mental acquisitions, too, are destroyed, and fade from the memory. So the world of mind, step by step, sinks to ruin. Even if the patient after a few days recovers somewhat, so as to leave his bed, if the connection of body and mind is somewhat restored, yet it is evident that the cohesion of the life of the mind is thrust down a step lower, and cannot again be raised to the former level. So these attacks mark out the steps by which the paralytic process goes on to complete annihilation. The actual cause of these attacks is not yet clearly made out. There is not always a hæmorrhage in conjunction with them. They are the co-effects of the paralytic process, but are worthy of note because even in the slower cases they indicate an active organic process of destruction, and draw attention to the decay which step by step advances.

II. *The exalted delirium and the progressive destruction of the mental strength, symptoms of organic processes going on in the brain.*

The exaltation which is so characteristic of general paralysis arises not out of weakness of intellect; it is not only a disturbance of the imaginative activity, but its essential point is an exorbitant expansion of the feeling of self. The life of ideas is influenced by the dominant emotion, and shapes itself so as to correspond. The feeling is not the consequence of the ideas; for often we find in general paralysis the feeling of grandeur without any delusions of greatness—also the feeling generally precedes the outbreak of the peculiar delusions. The ideas vary, changing from minute to minute; the feeling is constant, and forms the ground of the ideas. Now the causes which bring about a change of feeling are partly mental and partly bodily, and both work upon and through the brain. The effect of sudden and violent passions is well known;

it extends to the nervous system, to the secretions, &c. On the other hand, organic diseases of any part have a deep influence on the emotional condition of the mind, and that without the intervention of ideas. Now everything which promotes the feeling of self calls up pleasure, everything which thwarts calls up pain. The brain is the organ through which the mental influences work upon the remaining organisation, and *vice versa*, through which organic conditions affect the feelings, being itself a part of the organism and subject to organic changes. Therefore, we must conclude that organic changes of the brain affect both the feelings and ideas. The life and activity of mind and feeling ebb and flow according to the strength of the organic excitation. We see this in the influence which exciting substances, as wine, exercise on the emotional activity. We also observe that a certain degree of turgescence and of organic tension calls up a feeling of pleasure and contentment. The turgescence and tension of the brain will produce this feeling of pleasure, and affect the emotions and ideas more than that of any other organ, because there is no intermediate step. Out of the importance of the excitation by means of arterial blood, arises the necessity for recognising the importance of changes of the tissues. These principally take place in the inner layer of the cortical substance of the cerebrum, which is provided with an ample capillary network. On this we must particularly bestow our attention.

The excitation which is produced by vital stimuli may in the brain attain a strength which exceeds the limit of health. In this case the mental activity, especially the emotions, must also undergo an increase. We see such an excess of excitation in intoxication. In general paralysis we see this heightened condition accompanied by irritative turgescence and an accelerated change of tissue, which awakes in the patient the feeling of an energy of life never known before, of indescribable pleasure and delight, which, however, through the consumption of the 'oleum vitæ' and the nerve-force, lead to the annihilation of the organic elements. In this way we may explain both the immense expansion of the self-feeling and emotional impulses, and also the final disruption of the mental life. Certain particles of the mind-organ on whose vitality the mental functions depend are in a constant condition of heightened vital activity, and so the ideas also undergo an increase, the idea of self gains in intensity, and the patient leads a life of greater power and greater pleasure, and constructs his ideas accordingly.

Now, as the organic changes in the brain are chiefly brought about by the nerve-cells, we conclude that the delusions of grandeur of the paralytic are a manifestation of the disturbance of the cell-life. The relation of his "ego" to the outer world is altered, his "ego" becoming continually greater and mightier. He feels himself hurried

along by the impetus of the organic processes, and free from all hindrances and incumbrances such as usually influence the emotions, but which now are no longer taken into account. There is now no longer the oppressed feeling of a trouble-laden pilgrim of earth. He is released from earthly bounds, and is a god. The consciousness of insufficiency which always floats before our eyes, exists no longer for the paralytic. All the old ideas which once were present in the mind merely as wishes or imaginary thoughts, or ideal fancies, are now revived, and acquire life and the appearance of reality; and whatever ideas are started in the organ of ideation, are produced only in the dominant note of the exalted feeling.

A new life and a new view of the world starts up to the patient with the morbid and increased action of the nerve-cells. Out of a new fountain of mental strength established in his organism he has visions never before known.

Beautiful thoughts and ideas stream along and overleap all opposing conceptions arising from external facts. The world needs reforming. Of the relations of earthly life he takes no notice. Where these really oppose his doings or wishes, his self-feeling reacts in rage, which does not, however, last long. It vents itself in furious mania and dangerous attacks, or in a volley of threats.

The destructive nature of the process is soon apparent. In the intellect we see not only a stormy disturbance, but also striking defects. There is an extraordinary forgetfulness, an inability to take in outer perceptions and occurrences, and fix and engrave them. All the activity of the mind is centrifugal, not centripetal. And so the mind gets worn out, and all the exaltation comes to an end, and often intense depression follows. There is such a rapid metamorphosis of the organic part, that the idea-images are wiped away and are only of ephemeral duration. There is no fixed delusion except in certain chronic and hybrid cases.

III. *Different opinions of authors as to the seat and nature of the organic process.*

We have hitherto considered the phenomena of the distorted mind. The deductions we have reached require completion by means of pathological anatomy. This will determine whether, when the storm has ceased and the fire is extinguished, real organic products of this fire are to be found. We shall have to test our view of the organic foundation of the "megalomania" by the microscope and micro-chemistry. We arrive at two questions: What is the seat, and what is the nature of the anatomical change, which is at the bottom of the paralytic process? In the works of authors since Haslam we find a jumble of contradictory opinions, arbitrary hypotheses, and the strangest explanations. Almost every part of the brain has been assigned as the seat—cerebrum and cerebellum, white

and gray matter, ventricles and cortex, membranes and cranium, cellular tissue and vessels; and every kind of change has been called the cause—hardening and softening, œdema, sclerosis, hypertrophy and atrophy; hæmorrhagic, fibrinous, and albuminous exudations; meningitis, congestion, and extravasation; atony, rheumatism, athetosis, stasis, &c.

This divergence of opinion leads us to think that the real organic change is not yet known; and this is conceded by such men as Esquirol, Calmeil, Guislain, Falret, Conolly, and Griesinger.

IV. *Parenchymatous inflammation of the cortical substance, the basis of paralytic insanity.*

Looking at the series of phenomena thus briefly sketched out at the time—the intensity, the progressive rise and fall of the storm which bursts upon both mental and vital powers,—we cannot help feeling that the so-called general paralysis of the insane is not a mere negative state like other paralyses, but an active process, the expression of an independent activity consuming the mind, and so reducing the patient to a passive existence. Observation, not of the dementia of the final stage, but of the behaviour in the acute and early period, teaches that here all is fire and flame, storm and tumult, even in the bodily functions. Hasty eagerness, excesses in eating and drinking, and profusion of secretions and excretions, salivation, erections and ejaculations, accompany the first outbreak. And continual and excessive play of the emotions is no less common. If this be the character of the first stage, consideration of the final state leads us to the *à priori* conclusion that the total confusion or destruction of the mental life cannot come to pass without deeply ravaging changes occurring to the organ which carries on the mental processes.

A series of investigations carried on since 1857, by the eye and the microscope, have led me to the conviction that degeneration of the nerve cells of the hemispheres of the cerebrum, especially of the cortical portion, constitutes the peculiar intrinsic pathologico-anatomical change in paralytic insanity. The alteration of the cells is found in different degrees from mere parenchymatous swelling down to their reduction to molecular detritus. In advanced cases all the transition forms may be seen. There may be an aggregate of fat-globules with the characteristic outline and nucleus of nerve-cells. The nucleus will be surrounded closely by small fat-globules highly refracting, and also with pigment-granules yellowish and shining; or the outline will be seen only round one half of the cell, the other half being replaced by a margin of globules. And besides cells with a perfect outline, but filled with fat- and pigment-granules, there are others which have completely lost all outline, and are a mere collection of granules round a nucleus, as to the nature of

which we should be in doubt if we met with them elsewhere or isolated. In acute cases running on quickly to death, we do not always perceive these stages of degeneration so completely defined. The granulated cells occur more rarely, and we find more with a definite outline and with only a moderate amount of fat-granules and pigment. There is, however, a general swelling, a congestive turgescence and succulence of the cortical part. On section, it appears wet and darker than it ought. Often we may notice with the naked eye a bright red appearance, not so much of the surface or the pia mater as *in the inner layer*. This redness only penetrates to the surface in the more advanced stages and in certain spots. It is of different degrees, ranging from pale rose to dark violet; sometimes of as bright a red as a phlegmon or conjunctivitis. It is not due to post-mortem causes, to blood-gravitation or imbibition, for it is chiefly observed in the anterior parts of the cerebrum, especially on the convexity and in the temporal lobes, and also the parts which are most intensely red are frequently marked by punctiform capillary apoplexies. The microscope shows us in this portion a highly developed capillary network filled to excess with blood-corpuscles, with here and there points of extravasation and elongated vessels. The nerve-cells in this appear softened, ~~more voluminous~~ and more isolated. We seldom see this stage, because death does not usually occur till much later.

So then we have hyperæmia and parenchymatous swelling of the inner layer of the cortical substance on the one hand, and fatty pigmentous degeneration on the other, as the beginning and the end of the organic changes in general paralysis. Between these poles lies the destructive process, which by analogy we conclude to be a parenchymatous inflammation. Although the identification of hyperæmia or redness with inflammation is a much-disputed point, yet a marked and pronounced red injection and congestion are always strong indications of inflammatory action. And if we go through the cardinal symptoms of inflammation, we shall find not unfrequently that we may recognise *swelling* in the firm tension of the sac of the dura mater. The next requisite, *heat*, is not to be proved by the thermometer *in loco*; but the investigations of Dr. Ludwig Meyer have shown an actual increase of the general bodily temperature, whilst my own prove that during congestive exacerbations the heat is above the normal, whilst at times of collapse it is below. And we are warned by the redness and turgescence of the face, the hot temples, the reddened ears, that an increased cerebral congestion is present, and that the proper heat of the brain undergoes an advance. The fourth symptom, *pain*, we must not look for, because the malady attacks the organ of intellect, not that part of the brain which perceives pain. Patients protest they never felt so well. But they feel sensations in their heads which indicate what is going on

there, and in the premonitory period they often complain of actual pain. These have been cases where traumatic or syphilitic affections were at work, where meningeal irritation prevailed. And the absence of pain in the best-marked stages of general paralysis is an argument against the theory of its being a meningitis.

The passive character of the final stage in general paralysis must not make us think that the whole is a passive process; neither must we be misled by the diminution of the volume and weight of the brain-substance. The brain-atrophy is only one of the results of the disease; it is not the cause of the paralytic insanity. In the outset, not the atrophic, but the hypertrophic, are the victims of this. We have only to look at the strong athletic frames, with their full muscles, the well-formed skulls and florid faces. Here we have an excess of nutrition and over-stimulation. A primary atrophy cannot produce the phenomena of excessive activity. The exaltation of the self-feeling cannot be a consequence of depression of the nutritive process.

In cases of some duration the degeneration of the nerve-cells is visible even with the naked eye. We have no longer the redness of the inner layer of the cortical structure, not even the light rose tint, but a peculiar dark, dull yellow; and on trial with the scalpel or finger the consistence of this layer appears altered—sometimes softer, more frequently harder, like leather or felt. This is brought about by the shrinking of the tissue on the destruction of the cells, by condensation of the connective tissue, Virchow's *glia*, and by wasting of the vessels. In this yellow layer blackish-brown or rust-coloured spots, caused by pigment accumulations, are met with, the result of capillary extravasations, of active processes connected with an afflux of blood.

For the examination of the nerve-cells I have used preparations, either fresh and wetted with cerebro-spinal fluid, albumenised water, hydrochloric acid, glycerine, carmine solution, weak chromic acid, or pieces macerated a long time in these media so as to isolate the cells. I have also allowed pieces of the cortical substance to dry in a dry chamber, so that thin transparent slices could be cut off with a knife. With a low power, 40 to 120, we can survey at once the whole thickness of the cortical part, and detect the change in the integrity and size of the cells. I usually compare preparations taken from parts of the brain which appear normal with those visibly affected; and I also compare portions of the brain of paralytic patients with others from the brain of the insane who are not paralytic, and also with those from the brain of the sane. A favorable opportunity for such an instructive comparison was afforded me by two patients who died on the same day, one of whom suffered from paralytic dementia, the other from epileptic dementia with hemiplegia. The difference in the nerve-cells was most striking. In the general para-

lytic, the cells appeared large, and, in very advanced stages of degeneration, filled with fat- and pigment- granules; the sharp outline was partly obliterated, so that they often appeared only as heaps of granules with a nucleus. In the epileptic, the cells were smaller, sharper; the outline more perfect, much clearer and more transparent; very few fat- or pigment-granules. The capillaries here appeared slender and delicate, and the network they formed was but scanty; while in the paralytic patient the capillary network was much developed, and the walls of the vessels thickened and convoluted.

The degeneration of the inner layer is not uniform over the whole of the cerebrum, but prevails in certain definite localities. It is tolerably constant in the convolutions of the temporal lobes, and on the convexity, along the longitudinal fissure, and also in the frontal lobes; much less on the basilar surface, and least of all in the convolutions of the posterior lobes. I have also found the cells of the gray matter in the interior of the brain altered; *e. g.* the corpora quadrigemina. My researches, however, in this direction are too few to enable me to form a final judgment.

This much appears to me certain—that the changes in the inner layer of the cortical substance constitute the peculiar and intrinsic organic ground of paralytic insanity. This assertion, arrived at by comparative pathological observation, tallies with physiological investigations as to the functions of the different parts of the brain, which, without discussing them here, amount to this—that the convolutions of the great hemispheres, especially the cortical part, have a closer relation to the functions of the mind, particularly to the operations of ideas and thought, than any other part of the encephalon.

The other cranial and cerebral changes which we meet with are too variable and too inconstant to be able of themselves to constitute the essential pathological lesion of general paralysis. The ventricles are often distended with fluid; but often they are of normal size, or even contracted. The ependyma may be granular and full of amyloid corpuscles. The choroid plexus may be hyperæmic and full of cysts. The white substance of the hemispheres may be dry and inclined to sclerosis, or œdematous and softer than it ought to be; of dull colour, with stains of rose or yellowish hue. The soft meninges are in many cases partially thickened, œdematous, with stains of ecchymosis, occasionally with true thin blood extravasations. The vessels of the pia mater are often hyperæmic upon the convexity, in places atheromatous, in a few cases blocked by emboli. The arachnoid is, over a greater or less extent, milky and thickened, studded with Pacchionian granules, and by these united to the dura mater; also so luted with the pia mater to the surface of the brain, that on removing the meninges the cortical substance comes away

with them. On the inner surface of the dura mater we find in many cases a thin, gelatinous, soft, hæmorrhagic, pseudo-membranous layer, reddened by points of extravasation, or by fine vessels, especially on the parts corresponding to those of the inner layer usually attacked by inflammation, viz., the temporal fossæ, the convexity, and anterior fossæ. These layers are mostly thin, sometimes stratified, often only consisting of a rust-brown or blackish pigment. They are the residua of an afflux of blood to the brain. Of themselves they constitute no process of meningitis.

The condition of the skull varies. The dura mater is often closely adherent to it. The condition of the connective tissue is not clearly made out. It is easy to understand that this, especially its cell elements, must undergo change, as a consequence of the inflammatory parenchymatous degeneration.

Although no one of these changes can be looked upon as the essential condition of paralytic insanity, yet they play their part, albeit a minor one, in the psycho-paralytic drama. Their importance varies; they may be starting-points or predisposing influences, or modifications of the process, or co-effects or consequences of secondary significance. If the nerve-cells of the inner cortical layer come into a chronic condition of irritation and altered nutrition; if the organic vital motion of the same is altered and accelerated, running on to dissolution and disorganisation; if the inflammatory state which was once outside the nerve-cells has extended to them—then first do we have distinct general paralysis.

People are too fond of looking upon the nerve-cells and fibres as a kind of privileged class of cell elements, whose higher dignity cannot be subjected to the processes of vegetative life and disease, and which can only undergo functional disturbance. Some think, with reference to the nerve-cells, that there must be either perfect integrity or total annihilation of their action. This is a mistake. The nerve-cells are developed out of embryo-cells. They have a common origin with all other cells. Their existence is prolonged along with the whole living organism. From this they imbibe their nutrition; cut off from this, they perish. Though through differentiation they have a specific mode of existence, yet they never cease to depend on the continuous vegetative force of the organism, or cease to take part, to live and move, therein. They have their development, their history, their different ages—their adolescence, decrepitude, and premature old age. They depend on the arterial blood, so that pressure on the carotids interferes with their function, which is restored when the flow of the *pabulum vitæ* is allowed to go on again. If, then, the nerve-cells partake of the vegetative life, they must be subject to the disturbances of it. Though they are endowed with special energies and functions of a higher order, yet their nutrition may undergo a degeneration which may pervert their

function, and lead it out of its accustomed track without reducing it utterly to inaction. In this vegetative life there are many degrees between perfect health and death. The nutritive functions may undergo a shock by which they may be brought into an anomalous state, and a conflict of heterogeneous phenomena may result, exhibiting that condition which we call *disease*. We must here recall Virchow's stand-point of cellular pathology—the independence of the individual cell-life, the relative autonomy of cells. If we grant this to cells, so must we also presume a greater possibility of disturbance of their vital movements, a greater capacity for disease; and we must assign certainly not the lowest place to the cells of the central nervous system, presiding as it does over muscular movement, and receiving from all sides excitation.

The capillary network in which the nerve-cells of the cortical substance are imbedded not only mechanically regulates the blood-flow, like the pendulum of the brain-clock, but it is the bearer of a vital vegetative process; it is the canal system which conducts the heating material which the nerve-cells need for their life and strength. In the inner layer of the cortical substance the system of conducting arteries resolves itself into a thick network of the finest capillaries, and here the chief seat of the organic nutritive phenomena is to be looked for. Here the vegetative life of the brain is most concentrated, the interchange is most active; and if by irritation it is forced, it must undergo an excitation which will exceed the bounds of health. If severe mental distress inflames and breaks in upon the mind, both the bounds of the vegetative life and of the functional activity will be broken down, and then follows destruction of mental strength. This violent action is inharmonious, turbulent, confused, presenting the characteristics of destruction and annihilation, bringing into jeopardy the stability of the organ. Both the centripetal and also the centrifugal energy of the cerebrum is weakened, the receptivity and recollection, and also the expression of ideas and wishes. This shows that not only dynamic or functional disorder exists, but also organic disease—that the mind-organ is attacked at its very core.

These views are confirmed by observation of the *ætiology* of the disorder. It is favoured by everything which causes cerebral congestion and irritation. Men are attacked whose activity of brain-life and brain-circulation is in excess, whose feelings are much excited, who are harassed by business, and who, by reason of a kind of psychical hyperæsthesia, feel keenly the weight of strokes of fortune; men who eat a strong flesh diet, much meat and drink—who fully taste life's troubles and joys, excitements and delights—whose brain is much irritated, somatically and psychically, and whose

power of resisting is weakened by hereditary taint or illnesses. The slower kind of men are seldom attacked.

Sex, too, confirms it. I have found seventy-seven men attacked, while only twelve women were sufferers. Women have no business, and less cerebral irritation; they are not injured by alcohol or tobacco.

Age proves the same thing. General paralysis is a disease of prime manhood. Few cases happen before the age of twenty-eight or after sixty. It comes on when the brain is at the climax of development and its maximum of weight. The average age is about forty-one and a half years. Just before the brain reaches its highest weight, there appears to be great nutritive excitation going on, and great attraction of nutritive material to bring the development to perfection. Any forced nutrition or over-stimulation at this period will bring about parenchymatous swelling, and lead later to disorganisation. The inflammatory process goes on in a series of exacerbations, one following another, and attacking one set of cells after another. The downfall of the mind is gradual, marked out by apoplectic or epileptiform attacks.

[Dr. Meschede then gives the result of four post-mortem examinations of typical cases to illustrate his theory.]

I. The first is that of F. G—, who when admitted was sixty-two years of age, and had shown symptoms of general paralysis for three and a half years. After nine or ten months he died. Post-mortem examination thirty-six hours after death. The heart was enlarged, the muscular substance soft and fatty; the aorta was thickened and atheromatous; the arch was dilated like an aneurism; the spleen contained many small calcareous concretions; the kidneys showed traces of fatty degeneration; the skull was thick and heavy, the diploe vascular; on the inner surface of the dura mater was a thin pseudo-membranous layer, of a rusty colour, in the right temporal fossa; the arachnoid was here and there milky and thickened, with œdema of the pia mater and subarachnoid space; the pia mater was adherent in places to the cortical substance; the arteria foss. Sylv. dextr. was obstructed by an embolus. The cerebrum was œdematous and soft; the white substance yellowish, with yellow and rose-coloured stains; the gray matter soft, dark, and yellowish—in certain places reddened. Both ventricles distended and full of opaque serum.

The microscope showed on the surface of the left corpus striatum a patch of softening, consisting of granular detritus, fatty particles, fatty and degenerate nerve-cells, and cells in a state of transition. The vessels were partially diseased, and one small capillary was blocked by an embolus.

In the inner layer of the cortical substance of the cerebral convolutions, the microscope showed considerable degeneration of the

nerve-cells, while in the outer layer little was to be seen. The cells appeared to consist of fat- and pigment-granules. Many had lost the sharpness of their outline; many were mere rudiments of cells; many were larger than usual. Here and there were collections of granules in the shape of cells. A portion of the inner layer, magnified from fifty to sixty-five times showed hundreds of opaque, yellowish-brown, pyriform granules, standing out against the clear connective substance. These appeared like miniatures of the degenerate nerve-cells, and were arranged with tolerable regularity, increasing in number and size from the periphery to the white matter. The vessels of the inner layer formed a thick network, and were somewhat dilated, atheromatous, and fatty. These changes were most noticeable in the discoloured portions. In the outer layer this development of vessels was not to be seen.

In the gray substance of the corpora striata and quadrigemina advanced fatty degeneration of the nerve-cells was visible.

II. E— was admitted when forty-three years of age, after a month's illness, with symptoms of acute general paralysis. In a fortnight after admission he had an apoplectic-paralytic attack, and died the following day.

Post-mortem examination forty hours after death.—The heart was somewhat large and covered with fat. The muscular structure showed commencing fatty degeneration. There was thickening and atheroma of the aorta. There was congestion and hyperæmia of most of the viscera. The skull was rather thin. The sac of the dura mater was completely filled by the brain. In the right half of the basis cranii, chiefly in the temporal fossa between the dura mater and arachnoid, was a dark, half-liquid, recent blood extravasation, from one half to one and a half line in thickness. Neither the pia mater nor the arachnoid were perceptibly thickened. Nowhere were there any pseudo-membranous formations. There were some spots of atheroma on some of the arteries of the base. The whole of the right temporal lobe, especially the inner layer of the cortical portion, was completely softened and almost gelatinous. The cortical part, when cut through, displayed an outer layer of a whitish-gray colour, and an inner very highly reddened. The first varied little from the normal tint. The inner was of a dark red colour, and showed, even to the naked eye, a highly developed network of vessels, and many capillary apoplexies. The microscope showed in the softened portions of this inner layer extravasated blood-corpuscles, granular masses, nuclei, softened and fatty nerve-cells, and transition forms.

This was a case of paralytic insanity running an acute course. The inflammatory character of the disorder is manifest, and it is

the inner and not the outer portion of the cortical substance that is softened and degenerate.

III. The next may be termed a subacute case. N—, 53 years of age, was admitted September 16th. Before he was attacked, he had become religious and somewhat gloomy. In August his speech was affected, and exalted ideas showed themselves. These were chiefly of a religious character. In November he had two paralytic attacks, and died November 24th.

Post-mortem examination thirty-one hours after death.—Skull small, thickened. Dura mater adherent. The soft meninges thin and delicate; the arachnoid atrophied and perforated. Here and there the pia mater was adherent to the brain. The substance of the cerebrum was soft and somewhat moist. In the posterior lobes, the inner layer of the cortical portion was slightly reddened. The change of texture was unmistakable; it was soft and pappy. In the temporal lobes and in the anterior part of the frontal lobes, the inner layer was highly reddened, vascular, and very soft. The cortical substance was everywhere of its normal thickness, and presented no appearance of atrophy.

The microscope showed in the reddened portions of the cortical substance aggregates of fatty granules, either in the form of nerve-cells or in amorphous collections. In places the cells appeared full of fat-granules, in others the cell-outline was lost. The network of vessels was highly developed, the walls in a moderate state of fatty degeneration. The viscera of the body presented nothing remarkable. There was atheroma of the ascending aorta and its arch.

In this case, which may be called subacute, there was no marked atrophy of the convolutions, nor sign of meningitis; but there was great injection, softening, discoloration, fatty degeneration, and destruction of the nerve-cells of the inner layer of the cortical substance. There was some amount of alteration in the gray matter of the optic thalami; very little in that of the corpora striata.

IV. The fourth was a chronic case of a man of great muscular development, who had indulged in both sexual and alcoholic excesses. X—, admitted October 1, 1855. His malady had commenced in the first half of 1854, when 48 years of age. He displayed inarticulate speech, kleptomania, and loss of memory. The course of the disease was remitting, without active symptoms. Sometimes there was depression. He had hallucinations both of hearing and sight. After a gradual decline, he died of pneumonia after an apoplectic attack, February 18, 1859.

Post-mortem examination thirty-six hours after death.—The right lung showed pneumonic infiltration and yellowish softening. The

heart was healthy; atheromatous thickening at the commencement of the aorta. The other organs presented nothing very remarkable.

The skull was hard and thick. The soft membranes upon the convexity, especially on the anterior half of the cerebral hemispheres, were thickened and adherent to the brain-substance. The cortical substance was discoloured and soft, the nerve-cells were in a state of fatty degeneration. There were many granule cells and others in a state of transformation. The vessels were tolerably free from fatty change. On the floor of the fourth ventricle were some amyloid corpuscles.

In conclusion, we observe that in these four cases the skull, meninges, and consistence of the brain differ. All four agree in there being one constant and identical modification, a parenchymatous degeneration of the inner layer of the cortical substance, which we must look upon as the essential change in general paralysis. We find it in remitting and chronic cases, in acute and subacute. In chronic cases we find residua of the active process, pigment-stains, alterations of the membranes, regressive destruction of the cell elements; but without undervaluing the significance of the changes of the meninges, we must look upon the parenchymatous inflammation as the essential cause of paralytic insanity.

CLINICAL CASES.

Remarks on Aphasia, with Cases. By J. KEITH ANDERSON, M.D.
Edin.; President of the Royal Medical Society of Edinburgh.

(Read before the Royal Medical Society of Edinburgh, 9th March, 1866.)

IN the following remarks I have endeavoured to combine and arrange the opinions expressed by recent writers on the loss of speech which depends on disease of the brain, and which is frequently present in cases of paralysis. This cerebral loss of speech has been designated by the various names of alalia, aphemia, aphasia, and verbal amnesia. As aphasia is the term generally employed, I shall make use of it in this paper.

Aphasia is a disease, or a collection of symptoms, which it is difficult strictly to define; but its leading features may be shortly stated as follows:—Aphasia is distinguished from all other forms of

loss of speech by its being due to a cerebral lesion alone, and not to any paralysis or defect of the organs of voice or of speech. It differs entirely from the silence of deaf-mutism, insanity, and defective intelligence. The patient has ideas which he in vain labours to express in words, although his organs of vocalisation and articulation are perfect. An inability to express thoughts by writing coincides, in most cases, with the loss of speech; and reading and calculation are also frequently lost. Loss of the power of articulate speech is, however, the principal characteristic of aphasia. In most cases the loss of speech is not complete; but there exists such an impairment of that function as to render the expression of thought by its means difficult or impossible. The impairment may exist in all degrees, from that in which there is merely an inability to recollect or to cause to be pronounced certain words, to that in which speech is altogether unintelligible.

In place of attempting a further definition of aphasia, I think it better to give such a selection of cases as will suffice to convey an idea of its principal characteristics.

CASE I.—In 1863 a young man was brought to Professor Trousseau. Four years previously he had had a hemiplegic attack of the right side. He had recovered in a great measure the use of his limbs, but since the attack he had never said any other words than "Non," and "Maman." When asked his name, he replied "Maman;" his age, "Maman, Non." To all questions he replied thus. He had learned to write with his left hand, but could only write his surname. He was ordered to pronounce it, but he said "Maman." He was asked to write this, but he wrote his surname. Thus this man had only two words which he could say, and one which he could write; yet he was able to play well enough at cards and at draughts. He appeared to read; but as he kept the book for only a few minutes at a time, it was doubtful whether or not he could really do so. His intelligence appeared to be tolerably good.*

CASE II.—A gentleman, æt. 46, had a hemiplegic attack, after which he entirely lost the power of speech. The only articulate sounds which he could utter were, "ee—o." He varied the tone of these so well, that, with the aid of expressive gestures, he was able to convey to those about him his meaning upon ordinary subjects. He perfectly comprehended what was said to him, and clearly understood what he meant to answer, but was only able to utter these sounds, "ee—o, ee—o." He believed, however, that he used the proper words for the expression of his ideas, and often appeared surprised and displeased when he was not understood. He sometimes tried to explain his meaning by writing on a slate; but he generally substituted one word for another, and almost always erred in spelling what he wrote.†

CASE III.—A lady, affected with cancer of the left anterior lobe of the brain, was frequently unable to recall the names of the most familiar objects, and was reduced to express them by signs, or to point to them with her

* Trousseau, 'Clinique Médicale de l'Hôtel-Dieu de Paris,' 2nd edition, p. 590.

† Cooke 'On Nervous Diseases,' quoted in Forbes Winslow's 'Obscure Diseases of the Brain and Disorders of the Mind,' p. 412.

finger. When the word which she wanted was pronounced before her, she recognised it, and could repeat it.*

CASE IV.—A man, æt. 40, was attacked with hemiplegia of the right side. The attack occurred during the night, and, when he was found in the morning, the only articulate sounds which he uttered were, "Cou si si," "Cousisi." For four months he could utter no other syllable, except, in moments of anger, an oath. When he came under the observation of M. Trousseau, he was able to write his name with his left hand. He was asked to pronounce his name; he said, "Cousisi." He was then asked to write his name, and he wrote it correctly, "Paquet." The next request was to write his address, and he again wrote "Paquet." Perceiving, however, that this was an error, he turned away his head impatiently, saying "Cousisi." He was made to copy the word "billet," and he wrote it correctly; but, being again asked to write his name, he wrote instead, "billet." He had good enough intelligence, and was able not only to play at dominos and draughts, but even to cheat at those games. He read books; but it was observed that he read the same thing day after day, and even many times in the same day.†

CASE V.—A man, æt. 60, had hemiplegia of the right side. The only words which he could utter were, "Ah! fou;" and these he used on every occasion.‡

CASE VI.—Dr. Hughlings Jackson records the following case. E. H—, æt. 34, who had generally had good health, and who still looked healthy, was seized suddenly whilst walking across a room. He staggered, and then fell; and when put to bed it was found that the right arm and leg were paralysed, and that he could not speak. For a year he could not speak at all, except to say "yes" and "no;" but about that time he began to talk, if such interjectional expressions could be called talking. He relearned to say "d—n," "d—n your eyes." He had been in the habit of swearing, but now can say nothing else except "yes," "no," and "aye." I think he can now make signs, but not always correctly. He tried to tell me his age by his fingers, but was not quite correct. His writing—the penmanship of which, considering that it is written with his left hand, is pretty good—does not really consist of words at all—scarcely, indeed, of letters. It appears to me to resemble the word "damn," rather suspiciously.§

CASE VII.—A boy, æt. 18, had an attack of hemiplegia of the right side. The paralysis rapidly disappeared, but for three weeks he was unable to speak at all. After that time he was able to speak, but he made constant mistakes in words. His mistakes in speaking were of this kind:—"I hear quite wetty," instead of "quite well." "I can witter it in my ear." He called a book a "totano," and a chair a "handkerchief." When reading, he called farmer "farming," and consistent "constant."||

CASE VIII.—Dr. Graves gives the following case:—A farmer in the County of Wicklow, æt. 50, had a paralytic fit in the year 1839; since

* "A Case of Amnesia," by Thomas Hun, M.D., 'American Journal of Insanity,' 1850-51, p. 358, quoted in 'Archives Générales de Médecine,' 1864, vol. i, p. 343.

† Trousseau, 'Clinique Médicale,' p. 581.

‡ Ibid., p. 592.

§ Hughlings Jackson, 'London Hospital Reports,' vol. i, 1864, p. 452.

|| Ibid., p. 415.

that time he never recovered the use of the affected side, and still labours under a painful degree of hesitation of speech. He is, however, able to walk about, take a great deal of active exercise, and superintend the business of his farm. His memory seems to be tolerably good for all parts of speech except noun-substantives and proper names; the latter he cannot at all retain, and this defect is accompanied by the following singular peculiarity: that he perfectly recollects the initial letter of every substantive or proper name for which he has occasion in conversation, though he cannot recall to his memory the word itself. Experience, therefore, has taught him the utility of having written in manuscript a list of the things he is in the habit of calling for or speaking about, including the proper names of his children, servants, and acquaintances; all these he has arranged alphabetically in a little pocket dictionary, which he uses as follows:—If he wishes to ask anything about a cow, before he commences the sentence he turns to the letter C, and looks out for the word “cow,” and keeps his finger and eye fixed on the word until he has finished the sentence. He can pronounce the word “cow,” in its proper place, as long as he has his eye fixed on the written letters; but the moment he shuts the book it passes out of his memory and cannot be recalled, although he recollects its initial, and can refer to it again when necessary. . . . He cannot recollect his own name unless he looks out for it, nor the name of any person of his acquaintance; but he is never for a moment at a loss for the initial which is to guide him in his search for the word he seeks.*

CASE IX.—M. Bouillaud records an interesting case, in which the patient was quite unintelligible by reason of a want of words, or from using words which did not apply to the objects which he wished to indicate. In writing, the letters were well formed, but were placed without order, not forming words, and their meaning could not be guessed at. The patient could understand what he read, but could not read aloud more than two or three lines at a time, and even then only by an extreme effort of attention and will. He could sum up two lines of figures, and, most surprising fact of all, he was able whilst in this condition to compose and write down a piece of original music. He was then able to sing the air, without words.†

CASE X.—Dr. Hughlings Jackson mentions the case of an aphasic patient who could sing “I’m off to Charleston,” and “So early in the morning,” though he could say nothing else, except “Don’t know,” and “How d’ye do?” and some devotional phrases.‡

Various attempts have been made to determine the situation of that part of the brain to a lesion of which aphasia is due. I shall mention the principal of these, with the arguments which have been adduced in their support.

In 1808, Gall, the founder of phrenology, from observing the peculiar position and appearance of the eyes in certain persons who had a marked aptitude for learning and reciting by heart, was induced to place the seat of the faculties of the sense of words and the language of speech in that part of the anterior lobes of the brain

* “Observations on the Nature and Treatment of Various Diseases,” by Robert J. Graves, M.D., F.R.S., ‘Dublin Quarterly Journal of Medical Science,’ vol. xi, 1851, p. 1.

† ‘Bulletin de l’Académie Impériale de Médecine,’ 1865, p. 752.

‡ ‘London Hospital Reports,’ vol. i, 1864, p. 448.

which rests on the orbital plates. He regarded as the organ of the memory of words that part of the brain which rests on the posterior half of the orbital plates.

Professor Bouillaud, of Paris, in his '*Traité de l'Encéphalite*,'* and in various memoirs read before the Academy of Medicine,† brought forward evidence to show that the faculty of articulate language resides in the anterior lobes of the brain. He has collected the records of from 75 to 850 cases of cerebral disease, in 116 of which there was aphasia with a lesion of the anterior lobes only; in the others there was no aphasia, and the anterior lobes were found healthy. Trousseau‡ has put this localisation to the test by counting only those cases with autopsy observed during four years, as these have all the necessary conditions of exactitude. These cases are thirty-four in number, and of them eighteen are in favour of Bouillaud's view, and sixteen against it. The numbers are thus nearly equal; but it is worthy of remark that, while all of the cases favorable to Bouillaud's doctrine are cases of aphasia, only four of the contrary cases are of that character. Adding these four to the eighteen cases favorable to Bouillaud, we have twenty-two cases of aphasia, in eighteen of which the lesion was in the anterior lobes only, making Bouillaud right in 82 per cent. of the cases of aphasia. Various objections have been urged against the twelve cases which were not aphasic, but it is needless to mention them.§

The next attempt to localise the cerebral faculty of language was made by M. Marc Dax, of Sommières. He had been struck by the fact that, in all of the cases of hemiplegia with loss of speech which came under his notice, the paralysis was invariably on the right side, indicating a lesion of the left half of the brain. He compiled these cases in a memoir read before the Medical Congress held at Montpellier in 1836,|| in which he related forty cases of loss of speech, the cerebral lesion being to the left in all. He therefore concluded that in aphasia the lesion was invariably seated in the left half of the brain. M. Baillarger has combined the statistics for and against this doctrine with the following result:—He has collected 155 carefully reported cases of hemiplegia with aphasia, and he finds that in 145 the hemiplegia was on the right side, and in the remaining ten on the left.¶

In 1865 the son of M. Dax wrote a paper** in which, after sup-

* '*Traité de l'Encéphalite*,' Paris, 1825.

† '*Archives Générales de Médecine*,' 1825, t. viii, p. 25. '*Bulletin de l'Académie de Médecine*,' t. iv, p. 282, 1839. Ibid., 1848, t. xiii, p. 699. Ibid., 1865, t. xxx, p. 613 and p. 735.

‡ '*Bulletin de l'Académie Impériale*,' 1865, p. 668.

§ See '*Bulletin de l'Académie Impériale de Médecine*,' 1865, p. 842.

|| "*Lesions de la Moitié gauche de l'Encéphale coïncidant avec l'oubli des signes de la pensée*," '*Gazette Hebdomadaire de Médecine et de Chirurgie*,' p. 259.

¶ '*Bulletin de l'Académie Impériale*,' 1865.

** Ibid., p. 260.

porting his father's view, he attempted a still finer localisation. He assigned the seat of the faculty of articulate language to the external and anterior part of the left half of the middle lobe of the brain. This localisation rested on very feeble evidence, and has not been supported by further observations.

In 1861 M. Broca, of Paris, who had been an opponent of the principle of cerebral localisations, was converted into its most earnest advocate, under the following circumstances:—A discussion had taken place, before the Society of Anthropology, between M. Gratiolet, who maintained that the principle of cerebral localisations was false, and M. Auburtin, who affirmed that Bouillaud's localisation was at least proved. In this discussion Broca took the side of Gratiolet. A few days afterwards Broca found one morning, in his wards at the Bicêtre, a patient in whom he recognised a typical case of loss of speech from a cerebral cause. I shall give an abridgment of his account of the case, as it is one of extreme interest, and gives a fair idea of the condition of one class of aphasic patients.

A man, *æt.* 55, named Leborgne, attacked with diffuse gangrenous erysipelas of all the right lower limb. His history was as follows:—He had been subject to attacks of epilepsy from his youth upwards, but had been able to work till he reached the age of thirty. At that time he lost his speech, and two or three months afterwards was admitted to the Bicêtre, where he remained for the rest of his life. On his admission there, he presented no symptom whatever, except the loss of speech. He could say nothing except "Tan," and by this name he was known. He understood whatever was said to him, but replied nothing except "Tan, Tan," accompanied with very significant gestures. When he was not understood, he became excited, and swore, the oath being invariably, "Sacré nom de Dieu." He bore a bad character, but was always considered responsible for his actions. After he had been ten years in the hospital, a new symptom supervened. The right arm became gradually weak, and finished by becoming completely paralysed. Little by little, the paralysis extended to the right leg, till it also became entirely paralysed, and the patient had to remain constantly in bed. He reached this condition four years after the beginning of the paralysis of the arm, and fourteen after the loss of speech. During the next seven years no fresh symptoms showed themselves, with the exception of some weakness of sight. At the end of this period he came under the care of M. Broca.

From the weakness of the patient, Broca was unable to make a thorough examination of the state of his intellectual powers, but the following details were ascertained:—He appeared to comprehend all that was said to him, but, being only able to manifest his ideas by the movements of his left hand, his meaning could not be well comprehended. Numerical replies were those which he made best, by opening and closing his fingers. He was asked how many days he had been ill, and he sometimes replied five days, sometimes six. He indicated, exactly, how many years he had been at the Bicêtre. When this question was repeated, he again answered correctly; but the third time he lost his temper, and emitted the oath already mentioned. He could tell correctly the time on the clock, and could point out the order of succession of his different lesions. Frequently, however, questions to which a man of ordinary intelligence could have replied by a gesture, remained unanswered.

Sometimes the meaning of his replies could not be made out, while at other times the reply, though clear, was wrong. It was therefore evident that his intellect was profoundly affected; but he undoubtedly possessed a degree of intelligence sufficient for the act of speech.

It was clear that in this case there had been a progressive cerebral lesion, affecting at first only a limited portion of the brain substance, and gradually extending till it caused the lesions of motility. That this lesion occupied principally the *left* half of the brain was evident from the paralysis of the opposite side of the body.

At the examination of the brain, which was not made till the organ had been hardened by immersion in spirit for two or three months, a great loss of substance was detected in the left anterior lobe, consequent on a chronic softening which had originated there, and had spread to the corpus striatum of the same side. By a careful analysis of the appearances, Broca satisfied himself that the beginning of the softening had been most probably in the posterior part of the third left frontal convolution, or, if not there, in the second left frontal convolution. As for ten years the sole symptom had been the loss of speech, he concluded that this was due to the initial lesion; in other words, that the loss of speech was caused by the softening of the second or third left frontal convolution—most probably the latter.*

Shortly after the examination of this case, Broca met with another, in which the loss of speech was the sole symptom, and in which the intelligence appeared unimpaired. The patient had only three or four words at his command; but by means of these and of expressive gestures he managed to make himself perfectly understood. He could not write from the trembling of his hand, so that it remains uncertain whether or not he could express ideas by writing. At the autopsy there was found an old apoplectic cyst occupying the posterior parts of the second and third left frontal convolutions, the brain being otherwise healthy. The second convolution was much less profoundly altered than the third; Broca therefore concluded that to the lesion of the latter convolution the loss of speech was due.†

A number of subsequent observations have shown that there is a remarkable connection between aphasia and lesions of this convolution on the left side. So far as I know, no case has been published in which there was a lesion of this convolution on the left side without aphasia.

Several cases, however, have been recorded which show that aphasia may occur independently of disease of this particular convolution. These I shall briefly mention. M. Charcot had a case in which there was aphasia with a lesion of the left parietal lobe. The lesion was prolonged across the fissure of Rolando as far as the transverse frontal convolution, which was diseased just at the point where it joins the convolution of Broca. In the latter convolution

* Broca, 'Sur le Siège de la Faculté du Langage Articulé, avec deux observations d'Aphémie (perte de la parole),' Paris, 1861, p. 16.

† Broca, op. cit., p. 32.

there was no appearance of disease, with the exception of a few "compound granular corpuscles," detected by the microscope.* This case has induced Broca to modify his opinion, and to admit that lesions of the left transverse frontal convolution may affect articulate speech. This convolution is directly continuous with that of Broca, and many anatomists class them as one. A somewhat similar case is given by Vulpian.† Several cases of aphasia with a lesion of the right side of the brain have been recorded. Boyer mentions a case in which a man received a thrust of an umbrella in the right eye, penetrating the orbital plate, and lacerating the *right* anterior lobe of the brain. The patient instantly lost the power of speech.‡ Several instances of aphasia with *left* hemiplegia are on record; but such cases are not worth much without post-mortem details. One case is, however, too important to be omitted, as a careful autopsy was made. A woman with left hemiplegia was also aphasic. After death, the right Sylvian artery was found obliterated by a clot, and the posterior part of the third *right* frontal convolution highly softened. The left side of the brain was healthy.§ That this convolution on the right side may be injured without causing aphasia is shown by a case of M. Parrot's. In this case the speech was perfect, and after death the third right frontal convolution was found destroyed in all its posterior part.|| Similar cases have been placed on record by Fernet and Charcot.¶

Having thus discussed the various anatomical sites which have been assigned to the lesion causing aphasia, I shall now review the different theories which have been proposed as to its nature. And, first, it will be expedient to consider the nature of language itself.

Language consists essentially in the establishment of a definite relation between an idea and a sign by which that idea is manifested. This sign may be verbal, vocal, graphic, or mimic. Language may thus be divided into vocal language, written language, &c. We may speak, therefore, of the general faculty of language, meaning thereby all the different modes of expressing thought, and of the different special faculties of spoken language, written language, &c. It is held by Bouillaud** and others that all these special faculties of language are distinct and independent.

* See Trousseau, 'Clin. Méd.,' p. 600; also 'Gazette Hebdomadaire,' 17 Juillet, 1863; Auburtin, 'Considérations sur les Localisations Cérébrales,' Paris, 1863, p. 59; and Broca, 'Remarques sur le Siège, le Diagnostique, et la Nature de l'Aphémie,' Paris, 1863, p. 6.

† Trousseau, 'Clin. Méd.,' p. 601.

‡ Auburtin, op. cit., p. 56.

§ 'Bulletin de l'Académie Impériale,' 1865, p. 665.

|| 'Gazette Hebdomadaire,' 31 Juillet, 1863.

¶ Trousseau, 'Clin. Méd.,' p. 601.

** 'Bulletin de l'Académie Impériale, 1865, p. 605.

Human speech or articulate language consists in the voluntary production of a series of articulate sounds associated in words, and has as its object the representation of a series of ideas corresponding to these words, and joined together in such a manner as to express a thought.* The expression of thought by speech requires—1. The intellectual possession of a language susceptible of being spoken; 2. A proper conception of the relation between an idea and the words which express it; 3. The will of expressing this idea by articulate sounds; 4. The possession of means of communication between the will and the muscles concerned in articulation; and, 5. The power of so co-ordinating the movements of these muscles as to produce a series of articulate sounds corresponding to the series of ideas. Speech is, therefore, accomplished by the employment of three distinct kinds of psychical force:—1. Of intellectual force, in the formation of a thought capable of being expressed in words; 2. Of voluntary force, in the determination to utter these words; and, 3. Of motor force, in the realisation of the movements necessary to the articulation of the words.† All of these forces, though necessary to the expression of thought by speech, are not necessary to the act of speech itself. In moments of emotion, the first and second may be dispensed with, and an oath or an ejaculation may be uttered without any exercise of the intellect or the will.

It is probable that a number of cerebral co-ordinations are also necessary to the proper expression of thought by speech. In order that speech may be intelligent and fluent, the ideas and the words require to be arranged in a certain order. In health the words may be arranged properly by an exercise of the intellect and the will by the speaker thinking over the words which he is about to use. In such a case the utterance of words is slow and deliberate, as the speaker requires to make a double effort of his attention in finding first the idea, and then the words by which most clearly or elegantly to express it. Where the speaker is engaged in ordinary conversation, or where he is deeply interested and excited with the subject on which he is talking, his words come quickly, and without his bestowing any attention on them. In such cases speech would appear to be automatic. To give a better illustration:—An orator is called on suddenly to speak on a subject on which he has not prepared any remarks. On first rising he speaks slowly, and hesitates as to the words to be used. His ideas are confused, and he has a difficulty in expressing himself in appropriate language. Gradually, as he warms with his subject, he finds his words come more and more readily, and his ideas arrange themselves in more regular order, till at length, in the full swing of his oration, his ideas and his words appear to come spontaneously. There is here, I believe,

* See Parchappe, 'Bulletin de l'Académie Impériale, 1865, p. 679.

† Ibid., p. 681.

an example of cerebral co-ordination—a co-ordination not merely of the actions necessary to the furnishing and proper arrangement of words, but also a co-ordination of those actions necessary for the formation and arrangement of ideas.

For the consideration of aphasia, it will be convenient to adopt a simple division of articulate language suggested by Bouillaud. He divides articulate language into two distinct elements, viz., 1st, the faculty of creating or of learning words as signs of our ideas, and of preserving the recollection of them, which he calls interior speech; and, 2nd, the faculty of pronouncing, of articulating these same words, which he calls exterior speech. Exterior speech is thus only the expression of interior speech.*

The simplest and plainest division of aphasia is that of Baillarger.† He divides it into simple aphasia, in which there is merely an inability to make use of words as signs of our ideas—and perversion of speech, in which words are used to represent ideas with which they have no connection in ordinary language. Although in actual practice these two conditions are frequently found combined, it is expedient to consider them separately.

To begin with the consideration of simple aphasia. At the first glance, it is evident that in this division there are two chief groups. In the first, there is loss of both speech and writing; in the second, there is loss of speech only. By some writers these have been designated respectively amnesic and ataxic aphasia.‡

In amnesic aphasia, or that form in which there is loss of both speech and writing, the easiest hypothesis is to suppose that there is a loss of the memory of words—or, as it has been called, verbal amnesia. Did the patient possess the memory of words, it is natural to suppose that he would be able to express himself by writing; but such is not the case. Some writers have supposed that there are special cerebral co-ordinating centres for speech and writing, and that both of these have been injured to such an extent as to render both speech and writing impossible, by reason of the co-ordinated movements necessary to each being inefficiently performed. It appears to me that such an explanation is very far-fetched, and quite unnecessary, as the theory of forgetfulness of words, though perhaps not altogether a satisfactory explanation of certain cases, is sufficiently plausible. Trousseau§ has argued that a person cannot think without words; but the statement of Professor Lordat, of Montpellier, who was himself aphasic, is conclusive to the contrary.

* 'Bulletin de l'Académie Impériale, 1865, p. 618.

† Ibid., p. 818.

‡ See 'Edin. Med. Journal,' March, 1866: "Case illustrating the supposed connection of Aphasia (loss of the cerebral faculty of speech) with right Hemiplegia and Lesion of the external left frontal Convolution of the Brain," by William R. Sanders, M.D., F.R.C.P.

§ 'Clinique Médicale,' p. 624.

Lordat, after his recovery, stated that he was in the habit of composing lectures in his own mind, without being able to put a single idea into words.*

In the second or ataxic group of simple aphasia—viz., that class in which the patient, though unable to speak properly, has still the power to express his thoughts by writing—the explanation is more difficult. And, first, in examining and considering such cases, it is necessary to distinguish clearly between the mere mechanical act of writing and the expression of thought by written language. It is possible for some patients belonging to that class in which I assume there is mere forgetfulness of words, to write clearly and distinctly certain words which they possess, or which they have just heard repeated, or which they have copied; but this is merely the art of writing—it is not the expression of thought by that means. In the group of cases of which I am now speaking, the patients, though unable to express themselves by articulate language, remain perfectly capable of expressing their ideas by writing.† In such cases it is clear that the patients have not lost the memory of words. What, then, is the particular lesion in such cases? Several hypotheses have been brought forward. Trousseau‡ maintains that they resemble the first class in their being due to a loss of memory. This is a loss of the memory, not of words, but of the means of co-ordinating the movements necessary for articulate speech: in other words, the patients have forgotten how to speak.

“The infant speaks,” says M. Trousseau, “only because it has learned to speak; and one can comprehend that it can forget what it has learned, and that aphasia can be the consequence of the loss of the memory of the complicated movements necessary for the articulation of words.”§ Broca, who also holds this view, thinks that the successive degrees of perfection which we observe in the speech of children are to be explained by the successive degrees of perfection of a particular kind of memory, which is not the memory of words, but that of the movements necessary to the articulation of words; and that it is the latter kind of memory which is lost in this form of aphasia.

Now, the movements necessary to the articulation of words, though started by the will, are only incompletely directed by it. When we wish to utter a certain word, or to pronounce it in a certain manner, we do not consider how this is to be done. We only look to the end to be attained; we do not trouble ourselves as to

* ‘Clinique Médicale,’ p. 621; also Lordat, ‘Analyse de la Parole pour servir à la Théorie de divers cas d’Alalie et de Paralalie,’ Montpellier, 1843.

† An excellent example of this is given by Trousseau at page 615 of his ‘Clinique Médicale.’

‡ ‘Clinique Médicale,’ p. 625.

§ Quoted by Baillarger. See ‘Bulletin de l’Académie Impériale,’ 1865, p. 819.

the means. We do not know all the different movements required for the articulation of words; how, then, can we remember them? How can we recollect acts of which we have not been conscious? If we adopt this explanation of loss of speech, we may as well apply it to all cases of partial or complete palsy in which the muscles are in a normal condition. I therefore consider this theory of forgetfulness of co-ordinated movements as more than doubtful.

Another explanation is that of M. Bouillaud. Bouillaud believes, and since 1825 has laboured to make others believe, that somewhere in the anterior lobes of the brain there is placed a faculty which presides directly over the co-ordinated movements necessary for speech.* He designates the seat of this faculty, the legislative or co-ordinating organ of speech. He holds that, while some cases of aphasia may be due to a loss of memory of words, the majority are owing to a lesion of that part of the brain in which is seated this co-ordinating organ of speech. This theory is a very tempting one, inasmuch as it explains the phenomena of ataxic aphasia in an extremely simple manner. It rests on the fact that, in complicated voluntary movements, the will is only the point of departure. And, since the most complex muscular co-ordinations can be accomplished without being submitted to our examination or combined by our reason, it is natural to explain this by supposing the existence of co-ordinating centres for these movements. But, granting the existence of a separate co-ordinating centre for the movements of speech, why place it in the brain? The doctrine that the gray matter of the cerebral hemispheres is the seat of intellectual power is universally admitted. If, then, we accept the theory that a portion of this gray matter is subservient to a purpose which cannot be considered as in the least degree intellectual, we run counter to all our former ideas of cerebral physiology. Is it not much more probable that the co-ordinating centre of speech is seated in the medulla oblongata? Are not the olivary bodies much more likely, as supposed by Schroeder Van der Kolk, to be the co-ordinating centres of speech, than the gray matter of the anterior lobes of the brain? M. Bouillaud, it is true, has made a suggestion that this principle may reside in the white substance of the anterior lobes, and that the gray matter immediately in contact with it may be the seat of the intellectual element of interior speech.† In other words, M. Bouillaud believes that the white or conducting part of the brain substance can regulate muscular co-ordinations. This theory is quite opposed to modern physiology. Again, if there is a cerebral co-ordinating centre for speech, does it reside on one or both sides of the brain?—in other words, is it single or double? If single, how does it

* 'Bulletin de l'Académie Impériale,' 30 Avril et 15 Mai, 1865, p. 617.

† 'Archives Générales de Médecine,' 1825, t. viii; quoted in Bulletin de l'Académie Impériale,' 1865, p. 618, note.

govern the muscles of both sides? In those cases in which motor organs are under the special control of certain parts of the encephalon, the muscles of each side receive their nervous supply from separate sides of the encephalon; but here we should have an example of a cerebral centre seated on one side of the body, governing muscular motions on both sides. On the other hand, if this cerebral centre of Bouillaud is double, how is it that the majority of cases of aphasia are caused by a lesion of one side of the brain only? Were the organ a double one, we should expect that its destruction on one side alone would interfere only with the muscular motions of a single side, leaving those of the other side unimpeded. In such a case speech would not be greatly interfered with, for patients with paralysis of one side of the tongue talk quite intelligibly.

The original authorship of the next theory I cannot ascertain; it is upheld in France by M. Parchappe, and in this country by Dr. Sanders. This theory maintains that, in those aphasic patients who can write, the motor impulse to speech cannot be properly conveyed to the articulating muscles, or to the co-ordinating centre of articulation, by reason of some injury of the voluntary initiating or connecting apparatus. Of course in aphasia, which consists in a loss of speech from cerebral causes, the lesion must be somewhere in the brain. Supposing the memory of words and other faculties necessary to speech to reside in the anterior lobes, a lesion of the white matter of those lobes might separate and cut them off from the muscles of articulation. Thus the individual might have the memory of words intact, and have all the inclination to pronounce them, but, by reason of the interruption of the nervous current, he might be unable to cause these muscles to act. This theory somewhat resembles that of Bouillaud, but differs from the latter in this—that it does away with the difficulty of establishing a cerebral co-ordinating centre for articulation. The co-ordinating centre might be in the medulla oblongata or elsewhere, and the voluntary impulse might be conveyed thither from the anterior lobes of the brain. This theory may also suit those cases in which words are pronounced, but in an imperfect manner. Supposing the conducting apparatus to be in bad working order, the impressions conveyed by it might be so altered and distorted as to give rise to altered and distorted muscular motions.

I come now to the last theory or suggestion. It has occurred to me, while considering the various phenomena of aphasia, that possibly these, or some of these, may be due to a deficiency or impairment of those cerebral co-ordinations, of which, in a previous part of this paper, I have stated the probability. It is unnecessary here to repeat the arguments which were brought forward to show that in thought and in speech cerebral co-ordinations are necessary. If the concurrence of many different parts of the brain is essential to the

act of speech—an opinion held by many psychologists—then many different lesions might give rise to aphasia by cutting off the communication between these different parts, and so preventing the proper combination of their actions. In the present state of our knowledge of cerebral actions, very little can be said with regard to these co-ordinations; but it is conceivable that an interruption of them, or of some of them, might give rise to a difficulty or an impossibility of pronouncing, or of properly arranging, the series of articulate sounds which constitutes speech. This theory would allow greater latitude to the position of the lesion than Broca's views assert.

Having now mentioned the various theories with regard to the simple aphasia, or that form in which there is merely a loss or impairment of speech, I come to the other division of aphasia—viz., that form in which there is perversion of speech, and words are used to express ideas with which they have no connection in ordinary language.

This form admits of division into two classes. In the one, the patients believe themselves to be talking correctly; in the other, they are conscious of their errors of language as soon as the words are uttered.

In that class in which the patient utters words totally at variance with his meaning, without being conscious of the error, it is evident that he has lost the proper sense of the relation of words to ideas. The memory of words does not seem, in many such cases at least, to be greatly deficient; it is the memory of their meaning that has failed. There is, however, more than this. A false relation has taken the place of the proper one. When a patient calls for his boots, meaning his razor, and is astonished that his boots are brought to him, his sense of the settled relation of words to things must have become so perverted that he imagines words to express meanings quite different from those assigned to them.

In the other class, or that in which the patient, when he gives wrong names to objects, is immediately conscious of his error, it would appear that the proper conception of the relation of words to ideas or things, though impaired, is not altogether lost. The two classes of patients may be compared to persons of different degrees of education. The one person spells altogether badly, and is unconscious of his errors. The other also spells badly; but as soon as he sees the words written down, he perceives that something is wrong, and rectifies his spelling immediately. In like manner, the patient in whom the relation of words to objects is lost in the minor degree, as soon as he hears himself pronounce a word becomes aware that it is the wrong one. The bad spelling is detected by the eye, the wrong word by the ear.

Having now discussed the different classes into which I have

divided aphasia, I shall speak shortly of those patients who, having only a very few words at their command, are still enabled to swear or utter ejaculations when under the influence of passion. The explanation of such cases appears to me very simple. Oaths are, under such circumstances, emotional and automatic, being uttered without the interference of the intellect or the will. They partake of the nature of reflex phenomena, being excited by stimuli from without, and being uttered without the consent of the individual.

In conclusion, I have only to make a single remark on the intellectual condition of aphasics. In all of the cases of aphasia which I have seen, the intellect was decidedly weakened, but certainly not to such an extent that the abolition of speech could have been due to an abolition of ideas. I believe, therefore, that the loss of intelligence does not necessarily enter into the definition of aphasia, as it is probably due to the extensive softening of the cerebral gray matter which is found in most confirmed cases of the affection.

II. *Cases illustrating the Diagnosis of Paralytic Insanity, with Remarks* (partly translated from the French). By G. MACKENZIE BACON, M.D., Assistant Medical Officer of the Cambridgeshire Lunatic Asylum, Fulbourne.

THE ordinary features of so-called "general paralysis" are so familiar to those who treat the insane in numbers, that they are apt to regard its diagnosis as a transparent and very easy matter. It happens, however, sometimes that cases arise which offer all the prominent early signs of the disease, and yet do not go on to a fatal termination. In such instances the mental symptoms are not merely arrested for a time, but the patient to all appearance recovers. It is not unimportant to bear this fact in mind for other than pathological reasons, as a too positive prognosis might recoil unpleasantly on the giver were it refuted by an unexpected recovery. There is, probably, no disease of the brain about which we should be more ready to give a positive opinion than general paralysis, for its symptoms are, as a rule, easily recognised, and its course is so uniform; yet this very fact is liable to produce a false security, and so sometimes to favour error. The most distinctive signs of this disease are allowed to be the grand or optimistic illusions and incoherence which precede any actual palsy; and, knowing that these symptoms are most frequently followed by certain destructive changes in the brain, we are

apt to assume that the former must always terminate in the latter. This, however, is not an infallible rule; but one seldom hears of the exceptions. The following cases occur to me as illustrating this view of the subject: they have no special features of interest except as representing the minority, and for that reason are the more instructive.

CASE 1.—John S—, æt. 40, a tailor, was admitted into the Cambridgeshire Asylum May 1st, 1863.

This was stated to be his first attack, and of only a fortnight's duration. His mother and brother died insane. When admitted, he was described as "a fine, well-made man, suffering from much excitement, very talkative, and with excessive optimism, without signs of paralysis. Talks of being the cleverest man in the world, possessing great wealth, great strength, &c. All his remarks consist of exaggerations. Health not much impaired." He was, during the first few weeks, very violent and excited at times, and anxious to display the extraordinary powers he thought he possessed; but by the end of June he was more quiet, and worked at his trade, at which he was very skilful. At that time, however, he talked with the greatest amount of optimism, as to the quality of his work and the amount he could do, &c.

He improved gradually, becoming more quiet and steady in his habits, and not showing the same caprices of conduct; but he continued to talk in the same exaggerated style—not a mere boasting on his part, but a genuine belief in his strength and abilities. After a period of probation, he was discharged recovered in November 1863. He has since earned his living as a tailor; but his conduct has been marked by extravagances and oddities difficult to reconcile with a sound state of mind. He is now (June, 1866) in good health, living at large, and much the same in mind.

CASE 2.—Edward M—, æt. 49, married, a wheelwright by trade, was admitted into the Cambridgeshire Asylum August 18th, 1864.

There was some hereditary taint, and a previous attack was said to have occurred. An outbreak of violence led to his being sent away from home. The certificate mentioned "extreme restlessness and excitability. Incoherence, and threatened violence to those about him. Destruction of household furniture, cruelty to his children, robbing his neighbours of their poultry and rabbits, &c."

At first he showed no signs of insanity, but after a month he became incoherent and talkative. He had then unequal pupils, tremor of the facial muscles, and talked in an incoherent and exaggerated style. He afterwards got destructive, tore up the bed-clothes, and collected rubbish of all sorts, such as pieces of wood, string, glass, rags, and useless articles; he also said he was well off, and offered to write cheques for large sums of money. He was always repeating that he felt very strong and never was better in his life, and would write incoherent letters every day. Sometimes he was very abusive, and after swearing and declaiming about his ill usage, would begin to cry, and then give way to some fresh emotional disturbance. About April, 1865, he improved, ceased to be mischievous, and employed himself steadily. In July he was discharged, on the application of his wife, after a month's probation, and has not returned to the asylum.

In the first case the exaggerated delusions were very remarkable, and would have led many people to anticipate general paralysis; yet,

though these remained in a greater or less degree, the patient improved in other respects, and sufficient time has now elapsed—setting other reasons aside—to prove that the case was not what it seemed likely to be at first.

The second case, perhaps, more nearly resembled ordinary general paralysis; the partial dementia, destructiveness, tremor, and delusions as to wealth, &c., all pointing to such a conclusion. The man has, however, since his discharge, returned to his business and continued well. It is also curious that he had, according to his wife, shown similar symptoms two years previously, and quite recovered from them. It must be admitted that persistent optimism is hardly known in any other disease than general paralysis, which is necessarily fatal; and this makes the anomalous cases the more striking.

In connection with this subject, I have read with interest an article lately published in the '*Annales Medico-Psychologiques*,' by Dr. Munoz, who has had charge of the asylum at Cuba. Familiar with general paralysis as seen in this country, he mentions a class of cases which have occurred to him, in which, though all the early signs of this disease have been developed, the subsequent history has belied his unfavorable anticipations. His experiences on this point are valuable and clearly recorded. In Cuba, the differences in race, climate, and in the conditions of life are so considerable as to make a comparison of general paralysis as observed there and in Europe a matter of some interest, and the author's conclusions as to the relative frequency with which the mixed races in the island are attacked are rather striking.

I subjoin a translation of Dr. Munoz's paper, which tells its own tale too ably to require any further introduction:—

"The population of the island of Cuba is composed of a mixture of several races—of native and European whites, both of whom are for the most part Spaniards; of African negroes, of native blacks and creoles; and, lastly, of Chinese, who were introduced into the country some fifteen years ago in great numbers, in order to stimulate colonisation. This circumstance, as may be supposed, has given me the opportunity to make a comparative study of insanity among all these different people. I have thus been enabled to study the forms under which insanity shows itself among the negroes, the Chinese, and the native whites; the relative frequency of these forms, their course, termination, and variation.

"For the present I will confine myself to an explanation of those facts relating to general paralysis that I have observed in Cuba. The population of Cuba is about 1,200,000, and this total is thus composed—viz., 700,000 negroes and creoles (of whom 400,000 are natives), 300,000 native whites, 150,000 European whites (mostly Spaniards), and 50,000 Chinese. Among the natives (including whites, negroes, and creoles) the proportion of the sexes is nearly

equal. Among the negroes imported from Africa there is a disproportion between the sexes, the women being to the men as one to two; but among the whites who come and settle in the country the disproportion is much more considerable, the men being to the women at least as four to one. As regards the Chinese, they are all of the male sex. From these facts it results, of course, that the women are much less numerous than the men in the whole population of the island. The numbers in the asylum at Havana (the only one for the island) were, on January 1st, 1865, as follows:—men 334, women 136—total 470. Of the men, 120 were native whites, 94 foreign whites (Spaniards and Canadians for the most part), 96 negroes and creoles, and 24 were Chinese, while of the negroes 24 were Africans. Of the women, 46 were whites (natives mostly), and 90 were negresses, of whom 34 came from Africa. The enormous difference existing between the number of male and female insane is explained, not only by the disproportion existing between the two sexes in the general population of the island, but also by the custom which obtains in the country of keeping insane women at home, the idea of placing such patients in a public hospital being opposed to the general feeling. It is also to be remarked—and this is still more curious—that the number of the white population insane is nearly one fourth of the whole larger than that of the black, the negro population of the island being nearly twice as large as that of the white; for the insane negroes are to the sane as 1 to 3500, whilst the insane whites are to the sane in the proportion of 1 in 1666.

“From these facts we may conclude that insanity is twice as common among the whites as it is among the blacks.

“Having established these facts, I shall now give the results of my observations relative to the frequency of general paralysis among these different people.

“In order to thoroughly understand the conclusions that I shall draw from this paper, I must remind the reader of the opinion held by some distinguished authors as to the intimate connection existing between the ordinary commencement of general paralysis and ambitious mania.

“I believe also that the majority of alienists now hold this opinion—viz., that general paralysis usually commences with marked exaltation of the faculties, delirium of a grand or ambitious character, embarrassed speech, tremor of the lips, inequality of the pupils, &c. This fact being established, we must admit that in the case of a patient in whom these symptoms are well marked, every physician must give an unfavorable prognosis, suspecting the probable existence of commencing general paralysis. We shall see, however, that this opinion may sometimes be quite wrong.

"This is what happened to me at an early period of my residence in Havana, and further experience at the asylum of which I have had charge has enabled me to confirm it. In June, 1862, I was summoned to a rich proprietor of Havana, a native of the country, and about forty-eight years of age, who was attacked, for the first time, with ambitious mania, hesitating speech, tremor of the lips, inequality of the pupils, and weakness of the legs. The disease had existed for more than a month, and did not seem in any way influenced by the different modes of treatment already adopted. In view of the symptoms presented by the patient, my prognosis was entirely unfavorable; and the friends, alarmed thereat, had recourse to another physician. I cannot say what treatment was adopted in this case; but of this I am sure, that in September, 1864, I saw this individual in a most satisfactory state. This is not the only case of this sort that I can mention, for in the same year (1863) I saw two other patients also attacked with ambitious mania, combined with some symptoms of general paralysis; the one aged thirty-eight and the other forty-two, both natives of Cuba, and neither having had a previous attack. I made the same prognosis as in the preceding case; and, to my great astonishment, I saw the former of these patients recover at the end of about three months, and this satisfactory state of health has continued; indeed, I saw him about eight months ago perfectly well. As regards the other patient, who was placed, like the former, under private care, his state improved at the end of four months' confinement; but the friends, whose means were rather restricted, determined to place him in the public asylum. He remained in the asylum about two months and a half, and, upon being thought well, was discharged. Eight months after, a second attack, of the same nature as the former one, came on, and he was brought back to the asylum. The simple dementia became confirmed in a short time; but no symptom of general paralysis showed itself until April, 1864, at which date the patient was attacked by internal inflammation, which carried him off.

"The autopsy showed us decided injection of the cerebral mass, a certain amount of serous effusion, and slight adhesion of the membranes. During the years 1863-64, I registered at the asylum eight cases, on the male side, of ambitious mania, accompanied by signs of paralysis, among the native whites. Three of these patients, admitted in 1863, left in good health after four or five months' residence in the asylum. They have not returned during 1864 and the first eight months of 1865. Of the five other patients, one died of acute delirium, which came on in the course of a paroxysm of mania; three remained in the hospital, although improved; the fifth fell into paralytic dementia, and, at the time of my leaving the island, was almost dying, with diarrhoea, extreme wasting, sloughing sores on the sacrum and thighs, &c. This is the only well-developed

case of paralytic dementia that has come under my observation, either in or out of the asylum, among the native whites, since I have practised in the island. I should mention here that these individuals are generally very sober, their only drink consisting of water, sometimes mixed with a little red wine, and that taken with the meals. In point of excesses, the only ones they indulge in are of a venereal nature—the climate predisposing to an increased animal temperature, which is a frequent cause of excitement of the genital organs. The repeated exposure to the sun (to which so many are liable in the island) may also have a certain influence in determining the attacks of mania, this form of insanity being that most commonly observed amongst those subjects; but I have met with several cases of general paralysis among the white natives of Europe and North America. Thus, I had the care of, at the asylum, two Frenchmen, who died in a state of paralytic dementia: the first of these was only six months in the hospital, the second succumbed after a year's residence, and both had, from the first, well-marked ambitious delirium, hesitating speech, tremor of the lips, &c. I have also seen two North Americans die at the asylum from general paralysis, the disease being prolonged for eight or ten months. These patients had, from the commencement of the disease, excessive excitement, ambitious delirium, and embarrassed speech. An Italian, fifty years of age, entered the asylum attacked with paralytic dementia. He had maniacal excitement, with incoherence and embarrassment of speech, tremor of the lips and also of the limbs, unsteady gait, unequal pupils, ambitious delirium, and excessive emaciation. He had had, at first, an attack of cerebral congestion. At the end of five weeks' residence in the asylum he became more calm, and boils then appeared on different parts of his body, on the back, the left arm and leg. These had the character of true carbuncles, and increased to the size of a five-franc piece. They ended in a free supuration; and, as this proceeded, the symptoms, at first undecided, progressively diminished. The treatment followed in this case consisted in the use of repeated purgatives (aloetic pills), lemonade alternating with sarsaparilla, and, generally, warm baths during the paroxysm of excitement. The patient, after the fourth month of his residence, was evidently better; he had gained flesh, slept well, was more reasonable, and asked to see his son, the only relation he had in the country. I do not know what was the fate of this patient, having left him in this state on my departure from Havana. Among the native Spaniards that we received at the asylum during three years, I have noted about ten who were attacked with paralytic dementia; most of them presented at the commencement maniacal excitement, and in all of them, without exception, I have found, from the beginning, embarrassed speech and extreme ambitious delirium.

“Among the white women I have only had two cases of paralytic

dementia, and both these women were natives of the Canary Islands. The disease had commenced, in both cases, with an attack of ambitious mania and embarrassed speech. One of these women died at the end of ten months' residence in the asylum; the other was still there when I left Havana. I have also observed general paralysis among negroes, but much less frequently than among the native whites of the north. In a considerable number of coloured people that I have had to treat during my three years' residence at the Havana asylum, numbering about 300, I have noted nine cases of general paralysis—three men and six women. I should mention that these people are generally less sober than the whites; the drink that they generally take is tafia (spirit from the sugar-cane). On the other hand, they take little food, and commit excesses of all sorts. Paralytic dementia among the negroes presents constantly the same symptoms, progress, and termination as among the whites. In the three well-marked cases of this affection I have noticed among coloured men, there was from the first maniacal excitement, ambitious delirium, tremor of the lips, and embarrassed speech. The disease had lasted in one case eleven months, in another thirteen, and in another fifteen. If the sphincters have been paralysed early, the disease has always terminated with diarrhœa, marasmus, and gangrenous sores. In these three patients there was muscular contraction, the neck being bent forward, with permanent flexure of the legs on the thighs, and of the thighs on the pelvis. The autopsy revealed, in these three subjects, the same appearances as those mentioned by authors in ordinary paralytic dementia—viz., softening of the cortical layer of the brain, most distinct in the anterior lobes; adhesion of the membranes, abundant effusion of serum, granular state of the gray substance, and visible diminution in volume of the cerebral mass, &c. I should remark here, that among the native negroes, as well as among the native whites, I have observed ambitious mania, combined with tremor of the lips and embarrassed speech, and it has always terminated in paralytic dementia. I could cite two examples of this sort which occurred to me at the Havana asylum. It is common to find among the negroes grand delusions, not combined with excitement nor depression of the faculties, and without incoherence, preserving for years the same character, and terminating nevertheless by a weakness of the intellectual faculties. There is often to be observed in these cases a little lassitude in the movements, in great contrast to the natural excitement of character, which offers a certain analogy to that of epileptics. The patient becomes more violent, sullen, and sometimes ill-disposed. According to the figures which I have given above, it seems that, in the black race, contrary to what is observed in the white population, dementia is more common among women than men. I should also remark that, of the nine negro patients that I have noted, two thirds were natives of

Africa. From this observation, we may infer that among negroes, as among the whites, general paralysis is in Cuba much less frequent than among foreigners. I have observed in the case of two paralytic negresses, congestive phenomena, unusual at the commencement as well as in the course of the disease; a profound stupor, swelling and redness of the face, full and frequent pulse, and absolute mutism. These phenomena lasted some days, and then disappeared, to return later; but the symptoms of paralysis became more and more marked at the end of each attack. This form of congestion and paralysis, which is much more common in women, has been pointed out by M. Baillarger in his clinical lectures at the Salpêtrière. Of six cases of ambitious mania accompanied, from the beginning, by embarrassed speech, that I have observed in coloured people, two thirds were of the male sex. This fact seems to me the more curious, as I have proved the contrary to be the case in paralytic dementia. I think I can, for the present, make from this short paper, as far as regards paralytic dementia, the following conclusions:—

“1. That paralytic dementia is, in a general way, rare in the island of Cuba.

“2. That almost all the cases of this nature observed in this country occur in foreign whites, and in a much smaller proportion than that which has appeared to be the case in temperate climates.

“3. That among the natives this disease is rare.

“4. That we often find cases of ambitious mania which do not terminate in general paralysis.

“5. That paralytic dementia is more common among the negroes than the native whites, although it is more rare among them than it is with whites of temperate countries.

“6. That in the black race paralytic dementia is, contrary to what is observed in the white race, more frequent among women than men; while ambitious mania not followed by general paralysis is more frequent among the latter than the former.”

PART II.—REVIEWS.

1. *On Consanguineous Marriages.* By ARTHUR MITCHELL, M.D., Deputy-Commissioner in Lunacy for Scotland. ('Edinburgh Medical Journal,' March, April, June, 1865.)
2. *Consanguinity in Marriage.* By WILLIAM ADAM. ('The Fortnightly Review,' Nov. 1st and 15th, 1865.)
3. *Du Danger des Mariages consanguins sous le rapport sanitaire.* Par FRANCIS DEVAY. Deuxième édition, refondue et augmentée. Paris, 1862.
4. *Etude sur les Mariages consanguins et sur les Croisements dans les Règnes Animal et Végétal.* Par ANTONY CHIPPAULT. Paris, 1863.
5. *Sur la Consanguinité.* Par JULES FALRET. ('Archives Générales de Médecine,' Février, Mars, Avril, 1865.)

ONE might fairly suppose that a question so commonly arising and so often discussed as the influence of consanguine marriages would have been definitely settled by this time. Settled, indeed, it has been by the public long since, that such marriages are injurious; but the insufficiency of the grounds on which this opinion has been based is shown by the frequent appearance of opponents to this dogma. The question seems to have lost none of its attractions by age, and, indeed, the heretical side has displayed of late a fresh vitality, stimulated, perhaps, by the favour that scepticism on any subject has met with in recent times. All must admit that the influence of such marriages on the offspring has a grave social importance, but it is very doubtful whether, if it could be absolutely demonstrated to be as injurious as is alleged, the world would pay much heed to the conclusion. The large majority of marriages is determined merely by personal attraction or passion, neither prudence nor a regard for future consequences entering into the question at all, and possibly the moral results are as fortunate as if experience and age had a voice in the matter. In a few cases, and those among the rich or titled, as a rule, the interests of wealth and property are the main considerations; but probably the simple record that occurs in the sixth chapter of Genesis, "that the sons of

God saw the daughters of men that they were fair, and they took them wives of all which they chose," represents in this day, as it did six thousand years ago, at once the most natural and the truest explanation.

If it were needful to point out how little influence the most ordinary considerations of prudence have when weighed against inclination, even amongst the educated classes, it would suffice to refer to the statistics, either of phthisis or insanity, to show, that the most positive proof of the hereditary nature of these diseases, does not deter the heirs of these affections from transmitting the seeds of scrofula, madness, or many other evils, to not only one but any number of future generations. Be this, however, as it may, the problem of the influence of consanguine marriages is one which ought to be determined in the interests of science, and there are many, happily, who are content to work it out for its own sake, leaving the results as a legacy by which future generations may learn to benefit. One cannot but feel some surprise that the physiological aspects of matrimony are at the present time so entirely ignored, for it is extremely rare that anything save the immediate welfare of the contracting parties is taken into consideration; yet it is abundantly clear that the fate of the probable offspring is seriously involved. M. Devay, fully alive to the importance of this subject, commences his book by the following remarks:—

"There exists an almost universal blindness as regards what may be called the organic constitution of the family—that is to say, the health of future generations. Great efforts are made to transmit to them wealth, but little thought is given to place them under suitable conditions for enjoying it. Great importance is attached to the appearance of the surface, but very little to the real quality of the ground, that is to say, the blood. The observer must feel pained when he considers the almost constant violation of hygienic laws in marriage" This point, however, will be admitted by all; the difficulty is to apply the remedy, and the first step in this direction is to acquire more accurate knowledge bearing on the subject.

As the controversy on cousin-marriages has been revived very lately, we propose to give some account of the more recent views put forth on either side. It will be needful in the first place to settle what degree of consanguinity is allowable. Mr. Adam says in his paper—

"On the common assumption that the human race has sprung from one pair, all mankind, without exception, must be consanguineous either in the direct or in the collateral line; and if consanguinity is an absolute bar to marriage, then marriage as an institution must cease. If the abolition of that institution is a notion that can enter only into the reveries of fanaticism, then there must be some limit beyond which consanguinity shall be held to be inoperative as an objection to the marriage union, and the question is, where is that limit to be placed?"

Let us look first at the custom of various nations in different ages. Turning to the Old Testament history, it seems clear that "Cain and Seth, the sons of Adam, must each have married his own sister;" that Abram married his half-sister, and that "Moses and Aaron were the fruits of a union between Amram and Jochebed, the sister of Amram's father; that is, the nephew married the aunt."

The Levitical law, representing a different stage of civilisation, expressly prohibited the union of son with mother and of stepson with stepmother; of brother with sister, whether of whole or half-blood; and of nephew with aunt; the penalty of transgression being the excision of the disobedient from among the people. In profane history several writers refer to the customs prevalent among barbarous nations, as, for instance, Euripides, in the fifth century B.C., who affirmed "that amongst all barbarians the father married the daughter, the son the mother, and the sister the brother, and that no law forbade such connections." Ptolemy in the second, and St. Jerome in the fourth century, bring forward the same allegations, but it seems doubtful whether they were quite correct.

The Assyrians, of individual nations, are expressly accused of close consanguineous marriages, but the Persians were, it is agreed, the greatest offenders in this respect, some writers ascribing the practice in question to the Persians generally, others to the Magians or ruling class, and others to individual persons of rank and authority.

Coming down to more modern times, we find that "in Peru the succession to the throne of the Incas in the line of Manco Capac was sought to be secured by the authorised marriage of brother and sister among his descendants. Of existing savage tribes, amongst the Maories, in New Zealand, marriages between near relatives are said to be not infrequent, but they are not usual between brothers and sisters. Captain Speke relates that Mtesa, the King of Uganda, was attended at a levée by ladies 'who were at once his sisters and wives.'"

In China consanguineous marriages are prohibited *ad infinitum*, as in Roman law, and even two persons of the same surname are forbidden to marry.

"The Levitical law of the Jews is," continues Mr. Adam, "the basis of the ecclesiastical or canon law of Christian nations, and the Roman law contained in the institutes, code, and digest of Justinian, is the basis of modern civil law. In the computation of degrees of consanguinity there is a difference between these two systems of law. The canon law counts the degrees only up to the common ancestor, the civil law also down to the Propositus. Hence those who according to the canon law are in the first degree are placed by the civil law in the second degree, and those who according to the former are in the second degree are placed in the latter in the fourth degree. The substitution of the provisions of the civil law for those of the canon law was effected in England by the Marriage Act of

1549 in the reign of Henry VIII. The degrees prohibited by the canon law are all within the fourth degree of consanguinity, according to the computation of the civil law. All collaterals, therefore, in that degree or beyond it may marry. First cousins are in the fourth degree by the civil law, and, therefore, may marry. Nephew and great-aunt, or niece and great-uncle, are in the fourth degree, and may marry. For the same reason, as Burge quaintly remarks, though a man may not marry his grandmother, he may marry her sister. Such in brief is the existing law of England, Scotland, Ireland, and the British colonies, in regard to consanguineous marriages.

"According to the present law of France marriage is prohibited in the direct line between ancestors and their descendants, whether legitimate or illegitimate, to the remotest degree. In the collateral line marriage is prohibited between brothers and sisters, whether legitimate or illegitimate. Marriage is also prohibited between uncle and niece, aunt and nephew; but in these cases, as in regard to the age of marriage, Government possesses the power, on serious grounds of expediency, of dispensing with the prohibition.

"In Spain and Portugal the canon law is still in full force, prohibiting the intermarriage of those related to each other in the fourth degree, but for special reasons permitting dispensation from that prohibition."

In most of the United States of America marriage between an uncle and a niece is, we read, valid, but in Louisiana and Indiana the law is assimilated to the English.

This subject is one which, as involving the descent of property, has engaged the attention of jurists, some of whom have spoken very emphatically upon it. The opinion of Dr. Taylor, the author of 'Elements of the Civil Law,' is stated to be as follows:—

"With respect to marriages in the direct line, that is, in the line of ascendants and descendants, he says that though some limit the prohibition to the first degree, others to the third, the canon law to the fourth, and others again to the twentieth, yet in his judgment the voice of nature interposes absolutely and indeterminately, and such marriages are prohibited *in infinitum*. The principle of this rule he holds to be, that in such cases an exclusion is laid against those who are *parentum in numero*. Nature has set a perpetual bar to every such conjunction as shall damage or confound the consideration of parentage."

Mr. Burge, another great authority, thought the prohibition by the canon and civil law "prevents that confusion of civil duties which would be the necessary result of such marriages." And Chancellor Kent, of New York, considered such prohibitions to be "founded in the law of nature."

Mr. Adam, however, is by no means content to accept the theory of a natural law as sufficient ground for objection, remarking—

"The allegation of such a law is an unsupported assumption. Where, when, how, to whom, has nature thus spoken? In what language has nature declared that a man may not marry his grandmother, but has left him at liberty to marry his grandmother's sister? When nature speaks, she directs

her authority against possible evils. But who ever thought of marrying his grandmother, his great-grandmother, his great-great-grandmother, and so on, without limit? The thing is impossible; and the impossibility constitutes the all-sufficient reason for its not being done, without any added prohibition or penalty. Human laws often express human folly, but nature does not issue frivolous edicts against imaginary evils."

This writer thinks that consanguineous marriages must be unequivocally condemned, though not for the reasons usually held sufficient, and sums up the question in these words:—

"In the absence of any natural or revealed law against them, the legitimate inquiries will be—Do they embarrass the descent of property? Do they confuse our judgments of the relations of life? Do they vitiate our perceptions of domestic and social obligations? In reply to the first and second of these inquiries, the answer, as far as I am able to judge, must be that they do not embarrass the descent of property, and that they do not confuse our judgments of the relations of life. In reply to the third, the answer must be more doubtful. The marriage union between uncle and niece, between nephew and aunt, and between cousins, would seem to tend to lessen the purity and mutual confidence which for the happiness of families and the benefit of society should subsist between those near relations. There is, however, the utmost danger of pressing this consideration with too great rigour, for at every successive remove from the first degree in the direct and collateral lines the confusion of relation and duty becomes less, until at last it entirely disappears, and exists only in a morbid imagination."

The proofs of the evils resulting from consanguine marriages most generally relied on are those drawn from the records of disease, and it is on this ground that the battle of opinion has been so often fought. There are, moreover, certain morbid conditions which are supposed to result especially from these marriages, and so firmly established is this opinion in the public mind that it has become quite a tradition. Knowing this, authors are apt to commence with a foregone conclusion, and, assuming the point at issue, announce a triumph over all objections. Thus, M. Chippault opens his first chapter in these terms:—"Many authors have given their opinion in favour of the injurious nature of these marriages; some few only have taken the opposite view. Both have brought forward proofs in support of their opinion, but up to the present time *the anti-consanguinists alone have furnished convincing proofs!* According to these proofs it does not seem possible to me to deny the danger of these marriages, and still, to see the ardour with which some doctors set to work to defend them, one must needs believe that the problem is not settled." From such a horrible conclusion he endeavours to save his fellow-creatures by bringing up all the cases of disease which he can ascribe to such a cause. Mere denunciation such as this carries no weight as argument, and is enough to prejudice most people against the writer. The facts adduced by the anti-consanguinists are by no means numerous, many of them resting on very slight proof, and these have been quoted again and

again by every fresh writer till we begin to wonder whether a new idea on the subject is possible. Dr. Mitchell, though himself convinced of the evil effects of such marriages, discusses the question with the greatest fairness, and early in his pamphlet makes the following remarks :—

“Both general and professional opinions on this subject rest, in no small degree, on a peculiar and faulty kind of evidence. When we are presented with the question, “Does consanguinity in parentage appear to injure the offspring?” memory searches for instances of unions of kinship, from the history of which the answer is to be framed. Now, it is certain that all those cases which have been marked by misfortune will be first called up, while many of those which have exhibited no evil effect or no peculiarity of any sort will be passed over or forgotten. The attention, in all likelihood, has been frequently drawn to the first, while nothing may have occurred in the progress of the last to keep alive the recollection of relationship in the union. I need scarcely say that facts collected in this manner are almost sure to lead to inferences beyond the truth, yet it is from such data that conclusions on this subject have frequently, if not usually, been drawn. . . . Startling illustrations of calamitous sequences to cousin-marriages have been detailed, and pointed at with a finger of warning, *the relation of cause and effect being assumed*. Such a *relation* may have existed, but it is equally possible that it may not, for it must always be remembered that a blood-alliance between the parents is far from being *the only cause* of defective offspring.

“Supposing the proof complete that it is *a cause*, it is still only one of many, and we cannot therefore point with confidence to a particular case, and say positively that the calamity there is due to consanguinity of parentage, for it may really be due to injuries in parturition, to hooping-cough, to a blow on the head, or to starvation in infancy. Consanguinity in the parents *may* very decidedly *tend* to injure the offspring, yet it by no means follows that every defect in the children born of blood-related parents is an expression of this tendency, for the general causes of defect will exist among them as among other children, and will give results at least equally disastrous. It is clear, therefore, that isolated cases cannot be used in this or in any similar question to indicate the measure of the evil which may be expected, nor even to *prove its existence*.”

It is often objected, that the defects so generally attributed to these marriages are in reality due to hereditary transmission, and not to mere consanguinity; but Dr. Mitchell justly observes that, if certain tendencies are liable to descend to the offspring from the first cause, the danger is still greater when both parents are related, and that for this reason such unions should be avoided by the prudent. He says—“If relations by blood are liable to possess the same morbid tendencies, and if, by pairing among themselves for procreation, they are likely to transmit these tendencies in a dangerously increased form to their children, then it is surely their duty to avoid such unions, and to seek among strangers alliances with individuals *more likely* to possess qualities calculated to modify or counteract the morbid predispositions in question. It may be that there is absolutely nothing whatever in the bare fact of consanguinity, and

that a marriage of kinship should be avoided on the same grounds as a marriage between any man and woman *both* predisposed say to insanity. In the case of cousins, though there may be nothing common to them of so marked a character as a declared tendency to insanity, still there may be common to them any one of a hundred transmissible peculiarities, which it would be very undesirable to send down to their children in an exaggerated form. Even a strong temperament common to both might thus be intensified into disease in their offspring."

It may happen, of course, that in the case of two cousins one may possess qualities the best suited to neutralize those peculiarities in the other which it would be undesirable to have transmitted to their children; but the chances are the other way, as the inherited qualities of relations must be in great measure derived from a common source.

The chief defects commonly held to result from consanguine marriages are insanity, idiocy, and deaf-mutism; at least, these are the most important, and it is to them we would direct our attention. It would be easy to collect a number of startling cases in proof of the ill consequences of these marriages, but such evidence is worth very little for a general conclusion. The fairest method of investigation seems to be, 1st, to take, as Dr. Mitchell proposes, a large number of cases of the defects ascribed to kin marriages, and determine in what proportion the parents were related; 2nd, to investigate the family history of every marriage in a given locality, comparing the results of those in which the parents were related with those in which there was no such kinship. In the first case the number examined must be very large in order to make the inquiry fair, and in the second the investigation should be carried over a large field, and with scrupulous exactness.

Dr. Mitchell's official position has enabled him to investigate the subject in both these methods, in a way that private individuals could hardly attain, and, though he modestly announces he has "succeeded in doing a little," other people will probably consider that he has done a great deal, and has at considerable cost of time and labour collected a mass of most valuable information. He says that, in visiting lunatics in private dwellings, the relationship of the parents has been generally inquired into, and that, during 1860 and 1861, he made careful inquiry *in every case* in nine counties, viz., in Aberdeen, Bute, Clackmannan, Fife, Kincardine, Kinross, Perth, Ross and Cromarty, and Wigtown. These districts include a large portion of Scotland, and represent a population of 716,210. The investigation was attended with great difficulties, it may be easily imagined, and the result is given as follows:

"The whole number of idiots examined was 711, including those in receipt as well as those not in receipt of parochial aid. Of these, 421 were ascer-

tained to be the children of parents not related by blood, and 98 were the offspring of parents between whom there was a more or less close kinship. In 84 instances the relationship was not known, and 108 of the whole number were born out of wedlock. In a tabular form the results stand thus :

(1) Whole number of idiots and imbeciles examined	711
(2) Of these—illegitimate	108
" parentage not known	84
	<hr/> 192
(3) Total number whose parentage was known	519
Of these—parents not related	421
" parents related	98
	<hr/> 519

"Taking the whole number of idiots examined, including both the illegitimate and those of whose parentage I could learn nothing, we have 18·6 per cent. of the entire number born of parents between whom there was a blood-relationship. In order, therefore, to believe that such relationship does not influence the amount of idiocy, marriages of kinship would require in these counties to be to other marriages in the ratio of 1 to 7, which they notoriously are not, though, unfortunately, no facts exist to show precisely their relative frequency. I think, however, that it may be regarded as certain that such a ratio is about ten times higher than the reality.

"But in order properly to test this influence of consanguinity, we must at least deduct the cases of whose parentage I could obtain no information. Those acquainted with the difficulties of such investigations will admit that the number of these is not great. This deduction then being made, the proportion rises at once to 15·6 per cent. This last may be regarded as referring to the whole community, since there is no reason for supposing that among the 84 of whose parentage nothing was ascertained a greatly different proportion would be found to be the offspring of blood-alliances.

"It may appear to some that a further deduction should be made. The paternity of the illegitimate is practically an unknown thing, and I have elsewhere shown that illegitimacy itself tends to produce defective children. The illegitimate idiots should, therefore, be deducted, *so that those idiots born in marriage of parents related by blood may be compared with those born in marriage of parents not so related.* If this be done it will be found that the former constitute 18·9 per cent. of the latter. Instead, therefore, of every seventh or eighth marriage in the community, we should require every fifth or sixth, to be between persons related by blood to each other, in order to show that consanguinity of parentage does not influence the amount of idiocy.

"Of the 98 idiots whose parents were related, the degree of relationship was as follows :

Cousins in	42 cases.
Second cousins in	35 "
Third cousins in	21 "
	<hr/> 98 "

"During the course of these investigations 64 cases came to my knowledge in which more than one idiot existed in the family. In all of these but 5 I obtained the history of the parents. In the remaining 59 no less than 26 instances of blood-relationship occurred, or 44 per cent. This is an instructive fact, showing that when we select cases in which the tendency to

idiocy appears with force, then kinship of parentage also presents itself with a marked increase of frequency. Thus, while it appears that in nearly 1 out of every 2 cases in which more than one idiot occurs in a family, consanguinity of parentage is found; in those cases, on the other hand, where only one idiot occurs, such relationship only exists in 1 out of 5 or 6 cases."

Of these 59 cases, the parents were related in twenty-six instances, giving 74 idiot children; while in 33 the parents were not related, and produced 76 idiots.

He adds :

"The idiocy of our country is not due to one but to a great many things, each of which contributes its share to make up the whole; one cause may be more powerful than another, but each influences the total amount. The facts which have been detailed render it very probable, if they do not prove, that a blood alliance between parents is one of these causes, influencing unfavorably the amount of idiocy in the land, but they do not exhibit definitely the measure of this influence, though they may aid us in estimating it.

"There are many causes of idiocy which are undoubtedly of greater power than kinship of parentage. Hooping-cough, scarlatina, and measles, for instance, produce a large amount of the idiocy of Scotland, as they do probably of other countries. Hooping-cough, in particular, is often followed by imbecility or idiocy. We are too apt to think of idiocy as a congenital condition. In point of fact, however, a large proportion of the idiocy of the country has an extra-uterine origin, and, strictly speaking, is acquired and not congenital."

Deaf-mutism is perhaps the most notorious consequence of such marriages, and the most easily traced out. According to M. Chipault,* there are about 250,000 deaf-mutes in Europe, and in France there were (at the census of 1858) 21,321, 12,101 being males, and 9,220 females. These statistics have been well analysed by French authors, who conclude that it is impossible to deny the fact that more deaf-mutes are born from related than from non-related parents, and M. Boudin is prepared to specify the proportion, viz., twelve to fifteen times greater in the former than in the latter.

Inquiry into the statistics of ten of the Scotch and English deaf and dumb institutions, showed a total of 544 pupils, representing 504 families, and among these the number of pupils whose parents were related was 28, from 24 families. Deducting 25 per cent. for cases of acquired deaf-mutism, we have about one in twenty resulting from consanguine marriages :

"It will be observed," says Dr. Mitchell, "that the 24 cousin-marriages yielded 28 deaf-mutes. Had the same proportion existed through the entire number of pupils, they ought to have been represented by 466 instead of 504 families. There is therefore a greater frequency of two defective members in one family when dealing with the offspring of blood-relations

* 'Étude sur les Mariages consanguins,' p. 17.

than when dealing with others. In the Irish returns (1851) this is still more evident. 154 cousin-marriages, in which deaf-mutism occurred, yielded no less than 235 mute members.

"Dr. Peet, in his thirty-fifth annual report, in analysing Wilde's 'Statics of Disease,' says, that it appears that 'of the Irish deaf and dumb, from birth, about 1 in 16 were the off-spring of parents who were related within the degrees of first, second, or third cousins.' This does not differ greatly from the estimate which I have formed for Great Britain. Supposing cousin-marriages to be to others as 1 to 70, it will follow, Dr. Peet says, that congenital deafness appears at least four times, perhaps five times, as often from a marriage between cousins as from a marriage between persons not related.

"Of the 235 deaf-mutes in Ireland who were the offspring of cousins, only 7 were cases of acquired deafness. This is greatly below the proportion in the deaf-mute population of all Ireland, which shows 11 per cent. of acquired deafness and 7 per cent. uncertain. Instead of 7, therefore, there should have been 26 cases of acquired deafness. In other words, deaf-mutism, as it appears among the children of cousins, seems to be to a larger extent congenital than when it appears among the children of persons not related to each other by blood."

This gentleman goes on to relate the results of his inquiries into the history of the families in certain districts he visited, and the places chosen are particularly suited for the purpose, being isolated, and having but little communication with the general population. As an instance, we will take the island of Scalpay. It has been supposed that marriages of consanguinity were very prevalent in the western highlands and islands, but the official returns of Scalpay do not at all support the idea. Dr. Mitchell is of opinion that popular report exaggerates, and official returns understate, the facts. He reported on thirty-five cases of insanity in the island, and of these, thirty-one were idiots or imbeciles, while twelve of the whole were the offspring of parents related in different degrees. He remarks—

"On the supposition that this relationship has no influence on the production of idiocy, we should expect to find it in one third of all unions in the island. This, however, would greatly exaggerate the frequency of such marriages. So that, after deducting freely for other causes of idiocy, many of which are unusually strong in this island, there still remains a large measure of this calamity, which with good reason we may regard as due to consanguineous marriages.

"Bodily malformations are frequent in the Lewis. In the parish of Uig harelip is very common. Nine cases were brought to my own knowledge. In the Lewis, and the parishes opposite to it on the mainland, I saw five cases in which there were supernumerary little fingers, one in which there were two thumbs, and one in which the fingers and toes were webbed. Curvature of the spine, deformity, and lameness, were often seen in the island. Cases of congenital blindness and deaf-mutism are also numerous. I saw seven epileptics, several instances of chorea, and many of paralysis."

In another page he gives an account of the population of a small town on the north-east coast of Scotland, the details of which are very instructive :

"The fishing population is estimated at 779, and contains 119 married couples, and about 60 widows and widowers with or without families.

"Of the 119 married couples, in 11 cases the union is between full cousins, and in 16 between second consins; or, in other words, in 27 instances there is a blood-relationship. This is in the proportion of 1 to 4·4 of all marriages. Of these 27 marriages, including 3 which are barren, 105 children have been born. Of these children, 38 are dead (35 having died in childhood), 4 are deaf-mute, 4 are imbecile, 4 are slightly silly ('want a cast'), 1 is paralytic, and 11 are scrofulous and weakly. In other words, 24 out of the 67 living children labour under defects of body or mind, while 1 in 17 is an avowed imbecile, and 1 in 8·4 is weak in mind. These facts are of such a character as to lead us to suspect that more than one of the causes of idiocy must be strong in this community.

"The children of those who are full cousins are described as being '*all* of them neither strong in mind nor in body,' and the fishers of this place, as a class, are said to be '*below par in intellect.*' In this last opinion I am inclined to concur. It is true, I believe, not of this locality alone, but of nearly all the fishing villages which fringe the north-east coast of Scotland. There is a general lowering of the physical and mental strength in these communities, which is popularly attributed to this system of in-and-in breeding. When compared with the agricultural population, or with the tradespeople of the small towns in the neighbourhood, they are, as a race, inferior both in bodily vigour and intellectual capacity, while their thriftlessness and want of foresight are notorious. This opinion is founded on personal observation, as well as on the testimony of others."

The conclusions Dr. Mitchell has arrived at, as the result of his most laborious investigations, are as follows :—

"1. That consanguinity in parentage tends to injure the offspring. That this injury assumes various forms. That it may show itself in diminished viability at birth; in feeble constitutions, increasing the risk of danger from the invasion of strumous disease in after-life; in bodily defects and malformations; in deprivation or impairment of the senses, especially those of hearing and sight; and, more frequently than in any other way, in errors and disturbances of the nervous system, as in epilepsy, chorea, paralysis, imbecility, idiocy, and moral and intellectual insanity. That sterility or impaired reproductiveness is another result of consanguinity in marriage, but not one of such frequent occurrence as has been thought.

"2. That when the children seem to escape, the injury may show itself in the grandchildren; so that there may be given to the offspring by the kinship of their parents a potential defect which may become actual in their children, and thenceforward perhaps appear as an hereditary disease.

"3. That many isolated cases, and even groups of cases, present themselves in which no injurious result can be detected. That this may occur even when all other circumstances are of an unfavorable character.

"4. That, as regards mental disease, unions between blood relations influence idiocy and imbecility more than they do the

acquired forms of insanity, or those which show themselves after childhood.

"5. That the amount of idiocy in Scotland is to some extent increased by the prevalence of consanguine marriages, but that the frequency of these marriages does not appear to be so great as has been generally supposed."

There are other peculiarities besides the above recognised as due to the same influences; for instance, harelip, epilepsy, &c. M. Liebreich, of Berlin, too, has described a disease by the name of pigmentary retinitis, which he found among the deaf-mutes, and particularly among those whose parents were related, one half of the cases coming under the latter category. His observations have been carried on in Paris and other places, and always with the same results. But perhaps the most curious anomaly illustrating this subject is found in the pages of M. Devay;* it is as follows:—

"There is in the department of Isère, not far from the Côte-Saint-André et de Rives, quite a small village, called Izeaux, isolated and lost, as it were, in the midst of the uncultivated plain of Bièvre. The roads and means of communication in this unfertile spot were difficult, if not impracticable. The inhabitants of Izeaux, simple and almost abandoned to themselves, had very little to do with the surrounding population, and intermarried constantly and frequently within the limits of the same family. At the end of the last century, as a consequence of these marriages of relations, a singular abnormality arose, which some forty years ago affected nearly all the inhabitants. In this community, both men and women acquired a sixth digit, i. e. a supplementary one both on the feet and hands.

"When, in 1829 and in 1836,' says M. Pottou, 'I observed this strange phenomenon, it only existed in a more or less rudimentary condition; with some it was only a large tubercle, in the centre of which was a hard bony substance, terminated by a nail more or less formed, and fixed to the outer side of the base of the thumb. The person who accompanied me, although non-medical, pointed out to me that a happy change was observable in this defect of growth since the habits of the people had been modified, since the roads had improved, and communication had become more frequent with other places, in a word, since the races had mixed more freely. In 1847 I saw a native of this locality, who had settled at Lyons. He had the peculiarity mentioned, but had four children who were without their father's defect. At the present time this anomaly has almost completely disappeared.'"

Another curious fact in connection with this subject is mentioned by M. Chippault (p. 76):—

"In a report addressed to the Minister of the Interior in 1861, M. de Watteville stated that the number of deaf-mutes varied in France according to the district, and that he found in twenty-two departments of a mountainous nature there was 1 deaf-mute in 1158 inhabitants, and in twenty-five departments in which the country was flat and cultivated there was 1 in every 2285. There were, then, twice as many deaf-mutes in the mountainous as there were in the flat country. The explanation is easy, for in the

* 'Du Danger des Mariages consanguins,' p. 95.

mountainous districts the inhabitants have, so to speak, no relations with the outer world; in certain places they even remain attached to their native place and never leave it. Under these conditions the marriage field is very restricted, and the evil results of consanguinity are very numerous."

M. Chippault is so impressed with this view of the subject that he urges that consanguine marriages should be prohibited by law.

M. Jules Falret, on the other hand, who has given a most able *résumé* of the recent views on this question, thinks that fresh researches are needed before the question can be considered as settled in a scientific point of view, and adds—

"To form a legitimate conclusion, by exclusion, on the real influence of consanguinity as a cause of particular infirmities or diseases in descendants, we must first have eliminated all other physical or moral causes which, either in parents or children, may account for the production of these diseases or anomalies of organisation."

Such is the present state of the question, and it seems to us the balance of evidence is certainly in favour of the popular notion, but the strict proof is far from being as complete as it is generally considered to be.

G. MACKENZIE BACON.

PART III.—QUARTERLY REPORT ON THE PROGRESS OF PSYCHOLOGICAL MEDICINE.

English Psychological Literature.

By S. W. D. WILLIAMS, M.D., L.R.C.P.L., Assistant Medical
Officer of the Sussex Lunatic Asylum, Hayward's Heath.

*On the Morbid Anatomy of the Nervous Centres in General Paralysis
of the Insane.* By J. LOCKHART CLARKE, F.R.S., &c.

('Lancet,' September 1st, 1866.)

WE give this essay of Mr. Lockhart Clarke's on the Morbid Anatomy of the Brain in Paralytic Insanity in full. It does not admit of abbreviation.

"The principal morbid appearance (he writes) that has been

described by pathologists as constant in general paralysis, is to be found in the blood-vessels of the brain. It was first pointed out by Wedl and Rokitansky, and has since been more fully described by Drs. Salomon and Sankey. These observers have shown that many of the capillaries and smaller arteries become wavy, more or less tortuous, or convoluted into knots. 'There appears,' says Dr. Sankey, 'to be some amount of tortuosity in the capillaries of every case of general paresis. This tortuosity in places amounts to a simple sharp curve or twist; in places to a kinking of the vessel; in others, to a more complete twisting, until it forms, in fact, little knots of varicose vessels of very complicated kind.'* These appearances are well seen in preparations which Dr. Sankey was kind enough to show me, as well as in my own, and I have found them, to a certain extent, in the brain of every case of general paresis that I have examined; but they are much more striking in some cases than in others, and I agree with Dr. Sankey so far, that the amount of alteration is not always in proportion to the length of date, degree of imbecility, or of impaired motility. In an old woman who had been for a great many years an inmate of Hanwell Asylum, and whom I saw only two or three weeks before her death, I found the vessels of the cerebral hemispheres less altered in shape than in most other cases of much shorter duration.

"But the capillaries and small arteries which are thus thrown out of their usual course are also surrounded by a fibrous and cellular covering, or kind of sheath, which invests them somewhat loosely, and frequently contains grouped or isolated nuclei, fatty particles, and granules or grains of hæmatoidin, of a brown or yellowish tint. This secondary sheath is described by Rokitansky, Wedl, Sankey, and others, as an abnormal deposit of hypertrophied connective tissue, 'fitting, as it were, more or less closely to the vessel, in greater or less degree of transparency and extent, in some cases approaching a brownish hue, and marked by transverse lines like commencing contractions Whether this excess (of connective tissue fibres) is from what Rokitansky calls overgrowth of the original connective medium, or is thrown out by the capillaries, or is formed conjointly by both, is, and must probably remain, hypothetical.'†

"Rokitansky and Wedl believe that this investing substance is formed from a material thrown out by the capillaries, and that in the first stage the material is hyaline; that it afterwards contracts; that in contracting it throws the capillaries into bends or kinks; that as it goes on contracting it becomes less hyaline, more fibrous, and at length like a sheath.‡ They do not, however, consider it as

* 'Journal of Mental Science,' No. 48, 1864; and 'Lectures on Mental Diseases.'

† Sankey, loc. cit.

‡ Ibid.

peculiar to general paralysis, having observed it in other forms of cerebral disease; but still they describe it as an abnormal product, and as assuming the appearance of a sheath in morbid cases only.

"Now it is very important to be aware that in every healthy brain, or at least in every brain that on examination is usually considered healthy, a great number of the capillaries and small arteries are surrounded by secondary sheaths, precisely similar in all *essential* particulars to those which have been considered as morbid products in general paralysis and other cerebral affections. This anatomical fact was, I believe, first pointed out, about eleven years ago, by M. Robin of Paris, and was afterwards made the subject of a paper, with engravings, in the second volume of the '*Journal de Physiologie*,' from which I extract the following passage:—

"On trouve normalement autour d'un certain nombre des capillaires du cerveau, de la moëlle, de l'épendyme, et de la pie-mère, une enveloppe épaisse de 1 à 2 millièmes de millimètre, composée d'une substance homogène ou à peine striée. Elle s'étend sous forme d'une tunique adventice, ou extérieure à bords nets, mais onduleux depuis les capillaires, qui ont 1 à 2 centièmes de millimètre, en dehors même de la tunique de tissu lamineux de ces derniers. Elle est distante de 1 à 3 centièmes de millimètre des parois propres du capillaire qu'elle enveloppe. Or, cet espace est tantôt rempli d'un liquide incolore mêlé de granulations moléculaires, tantôt de petits noyaux libres, sphériques, larges de 5 millièmes de millimètre. Ces noyaux sont tantôt rares, écartés, de manière à laisser voir les parois propres du capillaire, tantôt ils sont contigus, ou au moins assez rapprochés pour masquer les noyaux ovoïdes allongés de ces parois. Dans tous les cas, on trouve toujours, chez les sujets qui ont dépassé quarante à quarante-cinq ans, des amas de granulations graisseuses, ou des granulations graisseuses isolées, atteignant jusqu'à 2 centièmes de millimètre, qui sont dans cet espace entre les parois propres du capillaire et cette tunique transparente extérieure. Mais surtout on y trouve aussi, entre les petits noyaux ronds ci-dessus, une grande quantité de granulations et de grains très-gros d'hématosine amorphe. Ces grains d'hématosine peuvent atteindre jusqu'à 2 centièmes de millimètre, et sont isolés ou réunis plusieurs les uns à côté des autres. Ils ne sont jamais accompagnés de globules sanguins, et semblent provenir d'hématosine qui aurait exsudé des parois propres des capillaires, et se serait déposée entre ces parois et la tunique transparente à bords souvent onduleux, décrite ci-dessus."*

"The author goes on to say that he has not found this special sheath around the capillaries anywhere else than in the white and gray substances of the cerebro-spinal nervous centres; that it does not belong to all the vessels, and that he is unable to say precisely to what its presence or absence is due; but that he has found it in every cerebrum and cerebellum in which he has looked for it.†

"My own observations confirm the general correctness of this description and of the remaining statements of the author. I have found such sheaths around a variable number of blood-vessels in the

* Page 543.

† Page 544.

brains of persons who have died without any apparent cerebral disorder; and one of these brains belonged to a fine, powerful, and healthy-looking young man, who was killed by an accident in the street.*

"Yet, on comparing vertical sections of the convolutions of a healthy brain with those of a brain from a person who has died of general paralysis, a striking difference between them is often observable even to the naked eye. In the latter case, a series of streaks or lines may frequently be seen radiating through the white and gray substances towards the surface; and in vertical sections of convolutions that have been hardened in chromic acid, it is very common to perceive, in the white substance especially, what seems at first sight to be a number of vertical fissures and oval slits, which, under the microscope, however, are found to contain blood-vessels surrounded by sheaths like those already described. But the sheaths in these cases are often less delicate; they are thicker, more conspicuous, and frequently darker than in the healthy brain; and sometimes, especially when the vessels are convoluted, they appear as fusiform dilatations along their course. Moreover, while in the healthy brain the granules or grains of hæmatoisin are commonly scanty, and frequently absent altogether, in general paralysis they mostly abound, being scattered in some places, and collected into groups in others. So much for the state of the cerebral blood-vessels in general paresis. In the nerve-cells of the convolutions I have frequently discovered certain structural changes, which, as far as I am aware, have not been mentioned by other observers. These changes consist of an increase in the number of the contained pigment-granules, which in some instances completely fill the cell. In other instances the cell loses its sharp contour, and looks like an irregular heap of particles ready to fall asunder.†

"A French writer, M. Joire, has stated that, during an experience of three years, he has always found in cases of general paralysis a peculiar alteration of structure in the fourth ventricle of the brain. This alteration consists of the formation of a considerable number of granulations resembling the elevations produced on the skin under the influence of cold. At an early stage of the disease the granulations are numerous and small, and suggest the idea of a surface

* It was this brain chiefly that I employed in my "Researches on the Minute Anatomy of the Cerebral Convolutions." ('Proceedings of the Royal Society,' vol. xii, No. 57.)

† These are not to be confounded with the "granule" or "exudation" cells of authors. The filling of the nerve-cells with pigment-granules, as an early stage of degeneration, I formerly pointed out in diseases of the spinal cord and of other parts. (Beale's 'Archives of Medicine,' No. xiii.) Dr. Hughes Bennett had also described fatty degeneration and consequent disintegration of nerve-cells of the nervous centres. This distinguished pathologist has represented the change in Fig. 405 of his great work on 'The Principles and Practice of Medicine,' fourth edition.

covered with grains of sand. In older cases the granules are larger, and afford a rough sensation to the touch. They are most remarkable at the point of the calamus scriptorius.*

"The appearance described by M. Joire is quite familiar to me, but I have not always found it in general paralysis; and it is certainly not peculiar to this disease, for I found it in cases of an entirely different nature. In Beale's 'Archives of Medicine' (No. ix, 1861) I recorded a remarkable case of muscular atrophy, in which, together with lesions of the cord, this granular appearance on the floor of the fourth ventricle was very strikingly manifested. I then showed that it was due to hypertrophy of the ordinary epithelium by which the ventricle is lined. It may be well to reproduce my description. 'The whole floor of the fourth ventricle presented a very peculiar and unnatural aspect. Instead of being smooth and shiny, as in the healthy state, it was entirely paved with a multitude of granulations or small rounded eminences, which were very closely aggregated, but differed from each other considerably in size. I removed some of them for examination, first by scraping them off from the surface, to which they adhered with considerable tenacity; and then by shaving off a section, together with a thin layer of the subjacent tissue. When examined by a sufficiently high magnifying power, the granulations or eminences were seen to consist of globular aggregations of the ordinary epithelial cells, which, in a natural or healthy state, are arranged side by side, and form a smooth or level surface on the floor of the ventricle. The tissue immediately subjacent, and which consists of exceedingly fine fibres proceeding from the tapering ends of the epithelial cells, and running in various directions, was more abundant than usual; and—as might be expected from the homologous relation of this part to that which surrounds the spinal canal—it was interspersed with *corpora amylacea*, but certainly not to a corresponding extent.'†

"In protracted cases of general paralysis the spinal cord is mostly, if not always, more or less affected. In some instances I have found it softened in certain parts to the consistence of cream. In other instances, in which there was little or no external appearance of softening, I have found numerous areas of granular and fluid disintegration within and around the gray substance."

* 'Gazette Médicale de Paris,' Aug., 1864.

† Beale's 'Archives of Medicine,' No. ix, Oct., 1861, p. 18.

Practical Observations on Insanity of Feeling and of Action.

By HENRY MAUDSLEY, M.D. Lond.

('Lancet,' June 23rd, 1866.)

Dr. Maudsley publishes in the 'Lancet' some observations on the vexed question of Moral Insanity. "It is well known (he says) that Dr. Prichard described, under the name of Moral Insanity, a variety of mental derangement which has been the occasion of angry and contemptuous reprobation by many who, without experience, but not without self-confidence, have not cared to recollect Dr. Prichard's great experience and high philosophical character. The name was perhaps ill chosen, and some of the examples which he brought forward in support of his opinion properly belonged to other recognised forms of mental disease; but when these admissions have been made, it still remains an unquestionable fact that there do occur in practice actual cases of mental disorder in which, without any illusion, hallucination, or delusion, the derangement is exhibited in a perverted state of what are called the active and moral powers of the mind—the feelings, affections, propensities, and conduct. Experience establishes, so far as experience can establish anything, the existence of such a variety of insanity, whatever name it may be thought best to give it. Moral insanity is an objectionable term, because it is not sufficiently exact, and because it lends some show of justice to the cavils of those who suspect the design of making out all sorts of vice and crime to be insanity. But Dr. Prichard never for a moment thought that a vicious act, or a crime, however extreme, was any proof of moral insanity; for he expressly insists upon tracing the disorder in each case to some recognised cause of disease. 'There is often,' he says, 'a strong hereditary tendency to insanity. The individual has previously suffered from an attack of madness of a decided character; there has been some great moral shock, as a loss of fortune; or there has been some severe physical shock, as an attack of paralysis or epilepsy, or some febrile or inflammatory disorder, which has produced a perceptible change in the habitual state of the constitution. In all these cases there has been an alteration in the temper and habits.'

"Now, if, after a cause that is known to be capable of producing every kind of insanity, a person in good social position, possessed of the feelings belonging to such social state, does undergo a great change of character, lose all good feelings, and, from being truthful, modest, and discreet, becomes a shameless liar, shamelessly vicious, and outrageously perverse, then it is surely impossible not to see the

effects of disease. Or, again, if a person of religious habit of mind, and hitherto without reproach in all the relations of life, does, under conditions known in many instances to lead to insanity, suddenly become desperately suicidal or homicidal, what avails it to point out that he or she knows the nature of the act, and thereupon to affirm that there is no insanity? It were neither more nor less true to assert that the man whose limbs are painfully convulsed is not suffering from disease because he is conscious of the wrong action of his limbs—because he knows that he is convulsed. But if the evidence drawn from its own nature and causation were insufficient, the fact that it is often the immediate forerunner of the severest forms of mental disease might suffice to teach the pathological interpretation of the condition commonly described as moral insanity, but which would be better called Affective Insanity."

Dr. Maudsley relates two cases which came under his care and observation, as examples of such mental derangement without positive intellectual alienation. In the first of them the attack was clearly traceable to a strong hereditary predisposition, in conjunction with physical and mental depression arising from the suckling of a child and from frequent and long absence from home of the husband.

A married lady, aged thirty-one, who had only one child, a few months old, was for months afflicted with the strongest and most persistent suicidal impulse, without any delusion or any disorder of the intellect. After some weeks of zealous attention and anxious care from her relatives, who were all most unwilling to send her from among them, it was found absolutely necessary to send her to an asylum, her suicidal attempts were so numerous, so cunningly devised, and so desperate. On admission she was most wretched because of her frightful impulse, and often wept bitterly, deploring piteously the great grief and trouble she was to her friends. She was quite rational, even in her horror and reprobation of the morbid propensity; and all the fault which could possibly be found with her intellect was that it was enlisted in the service of the morbid impulse. She had as complete a knowledge of the character of her insane acts as any indifferent bystander could have, but she was completely powerless to resist them. Her attempts at self-destruction were varied and unceasing. At times she would seem quite cheerful, so as to throw her attendants off their guard, and then would make with quick and sudden energy a preconcerted attempt. On one occasion she secretly tore her night-dress into strips while an attendant was close by, and was detected in the attempt to strangle herself with them. For some time she endeavoured to starve herself by refusing all food, and it was necessary to feed her by means of the stomach-pump. The anxiety which she caused was almost intolerable, but no one could grieve more over her miserable state than she did herself. Sometimes she would become cheerful and seem quite well for a day or two, but would then relapse into as bad a state as ever. After she had been in the asylum for four months she appeared to be undergoing a slow and steady improvement, and it was generally thought, as it was devoutly hoped, that one had seen the last of her suicidal attempts. Watchfulness was somewhat relaxed, when one night she suddenly slipped out of a door which had carelessly been left unlocked, climbed a high garden-wall with surprising agility, and ran off to a reservoir of water, into which she threw herself headlong.

She was got out before life was quite extinct, and after this all but successful attempt she never made another, but gradually regained her cheerfulness and her love of life. The family was strongly saturated with insanity.

In face of such an instance of uncontrollable impulse—and it is not very singular—what a cruel mockery to measure the lunatic's responsibility by his knowledge of right and wrong! In Dr. Maudsley's other case the morbid impulse, not less desperate, was homicidal.

An old lady, aged seventy-two, who had several members of her family insane, was afflicted with recurring paroxysms of convulsive excitement, in which she always made desperate attempts to strangle her daughter, who was very kind and attentive to her, and of whom she was very fond. Usually she sat quiet, depressed and moaning because of her condition, and apparently was so feeble as scarcely to be able to move. Suddenly she would jump up in great excitement, and, shrieking out that she must do it, make a rush upon her daughter that she might strangle her. During the paroxysms she was so strong and writhed so actively that one person could not hold her; but after a few minutes she sank down, quite exhausted, and, panting, would exclaim, "There, there! I told you; you would not believe how bad I was." No one could detect any distinct delusion in her mind; the paroxysm had all the appearance of a mental convulsion; and had she unhappily succeeded in her frantic attempts, it would certainly have been impossible to say honestly that she did not know that it was wrong to strangle her daughter. In such event, therefore, she ought legally to have been hanged, though one may doubt whether the juridical farce could have been played out, so palpably insane and irresponsible was she.

"These cases are examples of uncontrollable impulse without manifest intellectual disorder; they properly belong to what might be described as the *impulsive* variety of affective insanity. It is not true, as some have said, that the morbid impulse is the entire disease; the patient's whole manner of feeling, the mode of his affection by events, is more or less perverted, and the springs of his action, therefore, are disordered; the morbid impulse is the outward symptom of a deeper lying disease of the affective life, which is truly more dangerous than disease of the intellectual life, because its tendency is to express itself, not as intellectual derangement does, in *words*, but in *actions*. Man *feels*, *thinks*, and *acts*; in other words, has *feeling*, *cognition*, and *volition*. The feelings mirror the real nature of the individual, and it is from their depths that the impulses of action come, while the function of the intellect is to guide and to control. Consequently, when there is perversion of the affective life there will be morbid feeling and morbid action, which the intellect cannot check nor control, just as, when there is disease of the spinal cord, there may be convulsive movement, of which there is consciousness, but which the will cannot restrain. The existence of dangerous insanity of action and feeling, without marked intellectual derangement, is in strict accordance, not only with the physiology of the

nervous centres, but also with the first principles of a sound psychology; it is established also beyond all possibility of question by the observation of actual cases of insanity.

On the Functions of the Cerebellum.

Dr. Davey has addressed the following letter to the editor of the 'Lancet' on the Functions of the Cerebellum:—

"In your review of Professor Owen's 'Comparative Anatomy and Physiology' I find it stated that his views are adverse to the existence of any relation between the cerebellum and the sexual instinct as maintained by Dr. Gall, but in favour of its more or less intimate connection with locomotive power. With reference to this point, perhaps some of your readers may be interested to know that at the meeting of the British Association at Bath, in 1864, Mr. Prideaux, a warm advocate of the general soundness of Gall's views as to the special functions of different portions of the brain, read a paper on the 'Functions of the Cerebellum,' in which he adduced evidence to show that the central and lateral lobes had separate functions; the median lobe, or vermiform process, being the great ganglion of the nerves of muscular resistance, giving a perception of the position of the body and its relation to gravity, and being constantly developed in the ratio of the animal's locomotive power and capacity for balancing the body during rapid motion; the lateral lobes being the great ganglion of the nerves of cutaneous sensibility, and always developed in proportion to the development of the cuticular system of nerves.

"These views were sought to be enforced by a comparison of the nervous system and physiological manifestations of birds, cetaceans, and bats. The cetaceans were illustrations of the extreme development of the cuticular system of nerves, and equally so of the lateral lobes of the cerebellum. In the porpoise the size of the cerebellum, compared with the cerebrum, was as 1 to 2½, this unusual bulk being due to the enormous development of the lateral lobes, which equalled in absolute size those of man.

"In birds the development of the cuticular system was at a minimum, and equally so that of the lateral lobes of the cerebellum, which were, in fact, quite rudimentary, and consisted almost entirely of the root of the fifth pair of nerves; whilst the development of the median lobe bore the closest relation to the powers of flight, being as 1 to 13 in the slow gray owl, 1 to 11 in the crow, 1 to 6 in the swift hawk, and 1 to 4 in the agile swallow. The bat combined the acute tactile sensibility of the cetaceans with the agility of the bird; and, in conformity, united the large lateral lobes of the former with the large median lobe of the latter. In the common pipistrelle the weight of the cerebellum was .96 of a grain to a cerebrum of 1.78, being in the proportion of 1 to 1.85.

"Gall's mistake in locating sexual feeling in the cerebellum Mr. Prideaux maintains to be rather an error of inference than observation, the convexity of the lower fossa of the occipital bone and their protrusion backwards and downwards being principally due to the development of the under surface of the posterior lobe of the cerebrum, in the same way as the prominence of the eye and pouching of the lower eyelid, indicative of philological talent, is caused by the development of certain convolutions of the under surface of the anterior lobe resting on the roof of the orbit. Gall's views on the functions of the cerebellum were greatly strengthened by several remarkable

cases of loss of sexual feeling occurring after sabre wounds of the cerebellum in French soldiers; and for these cases he was indebted to Baron Larrey. The juxtaposition of the parts, combined with the known effects of concussion of the cerebrum, render these symptoms perfectly compatible with the location of the sexual feeling on the under surface of the posterior lobe of the cerebrum."

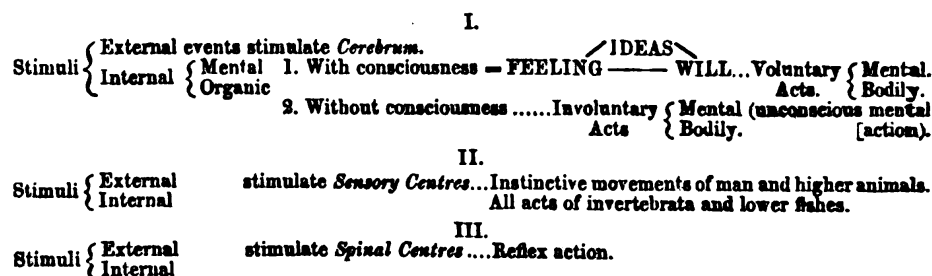
Notes of Lectures on Insanity. Delivered at St. George's Hospital,
by GEORGE FIELDING BLANDFORD, M.B. Oxon.

('Medical Times and Gazette.')

Dr. Blandford, the Lecturer on Psychology in the Medical School of St. George's Hospital, is publishing his lectures in the 'Medical Times and Gazette.' Four lectures have already appeared. The first is introductory, and in it he briefly speaks of the physiology of that nerve-life and "brain-life which constitute the mind of man."

There are two methods of studying the human mind, says Dr. Blandford, and we presume he refers to the subjective and the inductive methods. The latter, he believes, is the only true method.

DIAGRAM.



This diagram is given to show "that the same thing happens in the lowest manifestation of nerve function as in the highest intellectual act of man; that each act is made up of a stimulus, a stimulated centre, and a resulting movement. No nerve action has less than this or more."

Dr. Blandford then proceeds to show how the functions of the three varieties of the cranio-spinal system are acted on by this theory, and concludes his remarks thus.

The stimulation of any centre may be excessive, disproportionate, exhausting. The centre itself may be disordered or disorganized by the stimulation, or through defect or disease it may be too much or too little stimulated. The conscious feeling aroused in the highest cerebral centres may be converted into an idea in no way adequate, which does not correspond to the feeling; or the idea, when stored up, may be wrongly joined to other ideas, making the whole train erroneous, a delusion; and so the will, basing its judgment on these

false ideas, may carry out acts accordingly, acts which are denominated those of a madman. Disorder may occur in any of these physiological processes. Sometimes we may be able clearly to point out the spot. Frequently it will elude us, but it is physiology, and physiology alone, that can help us to find it, not the examination of our own self-consciousness.

Dr. Blandford now broaches the question, "What is the pathology of insanity?" By vivisections, and by accidents and disease in man, we have arrived at the fact that the gray cerebral matter is the seat of mind. The microscope reveals to us that this gray matter is made up of minute cells and fibres, connective tissue and blood-vessels, and that the white substance is formed of fibres connecting these cells with distant nerve centres and other parts. All these parts are necessarily nourished and kept alive by the blood, and increase or diminution in the supply of which causes a proportionate excitation or diminution in their functions. "The chemist tells us that the brain is a highly complex organic structure," and that it is characterised by constant change in the arrangement of its atoms, "by rapid recomposition and decomposition."

Dr. Blandford then proceeds to justify his theory by the facts stated above, and thus writes :

"Now, what I have said concerning *structure* and *function* may be reconciled with the diagram of nerve physiology which I drew at my first lecture. If you recollect what I said about stimuli and the centres which are stimulated, you will understand, *first*, that where the stimulation of a centre is excessive, disorder, or even disorganization, of that centre may take place, with corresponding resulting action, either temporary or permanent; *secondly*, that change may from other causes take place in the centre itself, either from its inherent and inherited tendency to change, or from faulty nutrition, or injury, or other accidental circumstance, and so disordered action may result, permanent or otherwise, according to the persistence of the change. In one of these two ways insanity is, I believe, in every instance, brought about."

Then having briefly enumerated the principal appearances visible to the naked eye in the heads of the insane opened after death, he concludes this portion of his subject with the following words :

"We conclude, *à priori*, deductively, that the nerve-cells and the blood-vessels which supply them must of necessity be affected in cases of insanity, and our microscopic observations teach us that this is the fact. The *nerve-cells* undergo degenerative change, and appear in every stage of decay. Sometimes they have lost their transparency, their contents are altered into fat and pigment-granules. Their outline is broken down, and they cease to be cells, appearing as dark collections of granules. These differ according to the form and duration of the attack. Much, however, still remains to be learnt on this head. More attention has hitherto been paid to the *cerebral blood-vessels*. Microscopical examination has shown a thickening of the walls of the capillary vessels going on to contraction and obliteration, with atheromatous or osseous degeneration. This may be due to deposit within

or without the vessel. Excess and hypertrophy of the connective tissue of the brain account, according to some, for this deposit on the vessels, and also for the obliteration by pressure of the nerve-cells. These changes have been observed in various forms of insanity, and even in other diseases of the brain. The study of them by means of the microscope is still in its infancy, beset with the difficulties I have already alluded to; yet every year will bring new results if we do but observe in the right way. The relation between insanity and the other organs of the body I shall speak of hereafter."

The subject of Dr. Blandford's *third lecture* is the "Causes of Insanity." He commences thus :

"The ancients used to vex their souls with metaphysical disquisitions upon the nature of causes. Everything, said they, must have a material, a formal, an efficient, and a final cause. Philosophers nowadays have given up the first three, though they still cling fondly to the last. In medicine you hear of 'predisposing' and 'exciting' causes; in books upon insanity they appear as 'moral' and 'physical.' Now, it must be clearly borne in mind that the cause of any given case of insanity is the assemblage of all the conditions which precede and contribute to it, whether they be *events* or *states*. We may talk of causes, or conditions, or antecedent states, or actual casual events, but it rarely happens that a case depends on one single state or event; almost invariably there is a concurrence of several, which concurrence or assemblage constitutes the cause. You will understand how little *events* have to do with the production of insanity when I enumerate among the most important causes that *state* which is termed hereditary predisposition, and such states as age, sex, and civilisation."

He would therefore seem to divide the causation of insanity into three classes—the predisposing, the moral, the physical.

The first includes hereditary predisposition, the states of age, sex, and civilisation, and is a most prolific cause. The second, the moral causes, are produced by abnormal stimulation of the nerve centre, and include domestic losses and troubles, grief, disappointed affections, jealousy, religious and political excitement, fright, overstudy.

"All these," writes Dr. Blandford, "except perhaps the last, are violent stimuli of the emotional centres, morbidly exciting the feeling of self, self-love, and self-interest. The balance of the relation which the individual bears to his fellow-men is upset, and he stands isolated and self-centred. Yet these events happen to men daily without driving them mad; therefore we must look upon them as only a part of the cause, the remainder depending on the constitutional defects of the patient. Often we hear that a man has had much trouble, or excitement, or disappointment, when in truth, being saturated with insanity, his own crazy brains have manufactured these so-called causes out of nothing at all, the excitement and worry being all along subjective, and having no real existence whatever."

The third, the physical causes, are produced by defect or disease in the nerve centre through the bodily health. They may be sudden or they may be protracted over years. They are very numerous, so much so, indeed, that one noted psychologist (Dr. Skae) bases his nosology entirely on the physical causes, denying all others.

Dr. Blandford does not attempt any classification of insanity, "the mind being too much a unit to admit of a classification according to its parts." He therefore falls back upon the old time-honoured system of symptomatology of Pinel, who gave but four—idiocy, mania, melancholia, and dementia.

In his fourth lecture Dr. Blandford treats of "Insanity without Delusions—Impulsive Insanity—Transitory Insanity—Insanity with Delusion."

The first of these, insanity without delusions, which he remarks is also called "moral insanity," "partial insanity," "impulsive insanity," "emotional insanity," he illustrates by a case:—"A city merchant, past middle age, grave and respectable, suddenly takes to drinking and low company, becomes extravagant, quarrelsome, gives up business, takes to horses and riding, of which he knows nothing; is, in fact, an altered man." At last his conduct becomes so outrageous that he is confined in an asylum, but, although excitable and rambling in argument, he has no delusion, no intellectual lesion. This case Dr. Blandford considers a good specimen of *manie sans délire*, or, as he calls it, the "so-called moral insanity" of Dr. Prichard. He does not give the termination of the case, which would be interesting, as the symptoms described closely resemble those so frequently observed in the premonitory stages of general paresis.

Dr. Blandford considers the term "moral insanity" misapplied; he does not think there can be such a state as insanity of the feelings and emotions without corresponding intellectual lesion, and he believes this proved by the fact that all such cases degenerate into cases of monomania. Dr. Blandford then refers to impulsive insanity, and writes—

"There is, however, another species of insanity at which the public sneers still more than at the last mentioned, and which, if wrongfully applied, might unquestionably be made to cover crime even more easily. This is the so-called 'impulsive' or 'instinctive' insanity. As described, it consists of a sudden insane impulse in a previously sane individual to commit a crime, which impulse ceases as soon as the deed is done, leaving the individual sane as before; consequently the crime stands out as the only evidence of the insanity. This is an exaggerated account of a form of mental disorder which really exists. A patient consciously, but involuntarily, in spite of every wish and the utmost efforts of his will, is hurried by an irresistible impulse to do some act of violence. The impulse in his brain-centres forces him straight to action, reason and will being powerless to check it. The act is as automatic and 'instinctive' as the acts of lower animals. Such cases occur, and are seen in asylums; they are not invented merely for legal purposes. The patients are often aware of their propensity, and beg to be guarded against it. They have no delusions, they do not justify their crimes; be the impulse to suicide or to homicide, they deplore it, and seek treatment and assistance. The diagnosis of such cases must necessarily be guarded. There is little evidence of insanity beyond the act itself. The patient's feelings are not perverted except at the moment, for he bewails his

state, and often attacks those he loves best. He assigns no motive, but rationally confesses his inability to resist. Such impulses have been explained by the theory of the 'reflex action' of the cerebrum, which operates in a manner analogous to the reflex convulsive action of the spinal centres. If this does not explain, it at any rate illustrates the disease. It is involuntary action coming from some morbid stimulation of a nerve centre, with consciousness, but in spite of every effort of reason and will. Inquiring into the history of such, we find generally a strong hereditary taint; possibly symptoms of head disorder may have been exhibited quite early in life, or there may have been epilepsy or a blow on the head. It is essential in such cases to try and discover a cause wherewith we may connect the manifestation of disorder.

* * * * *

"To conclude, cases occur of a spasmodic or transitory mania, during which acts of great violence may be committed, there being for the time a visible change in the look and demeanour of the patient, and which may pass off in a few hours or days, leaving no trace of insanity. There is here also a morbid stimulation of the cerebral centre, resulting in morbid and irregular act, without the intervention of the mind proper. The act is not the result of diseased will, but is independent of will, involuntary, and often unconscious."

Dr. Blandford now considers insanity with delusions, and commences by defining the meaning of the three words, delusions, illusions, and hallucinations. *Hallucinations*, he says, are false or fancied perceptions of the senses, as, for instance, when the eye or ear fancies it sees or hears something when there is absolutely nothing to see or hear, when, perhaps, it is the time of the darkest and stillest midnight. *Illusions* also are false perceptions of the senses, with this difference, that there is a foundation for them. There is a noise or there is an object, but the patient thinks it some different noise or different object from that which it really is. Illusions may occur to every one. The *mirage* of the desert, the spectre of the Brocken, are illusions; but they differ from those of the insane in this, that a number of persons together will all see them, whereas the illusion of the insane appears real to him alone; his companions hear nothing and see nothing, or hear and see things as they really are, not as they appear to him. A *delusion* is a false belief of some fact, not a false perception of one of the senses; it is a categorical proposition, false by reason of the diseased brain of the person who believes it, and set down as false by others because it is contrary to common experience of the laws of nature, or to former experience of similar things, or is contrary to the knowledge of some or the evidence of the senses of the majority of mankind. There is no infallible test of delusions, and often when in signing a certificate you mention one you will be obliged to state how and why you know it to be a delusion, for many which have been so considered have turned out to be facts, and not fancies.

We shall renew our notice of Dr. Blandford's lectures as they appear. The above is a summary of the four already published.

PART IV.—NOTES AND NEWS.

THE MEDICO-PSYCHOLOGICAL ASSOCIATION.

Proceedings at the Annual Meeting of the Association, held at the Rooms of the Royal Society, Edinburgh, on Tuesday, July 31st, 1866.

THE Council met in the Royal Society Rooms at half-past eleven A.M.

The morning meeting of the Association was held at half-past twelve P.M.; the afternoon meeting, at three P.M.

Members present.—W. A. F. Browne, Commissioner in Lunacy (President); Sir James Coxe, M.D., Commissioner in Lunacy for Scotland; Robert Stewart, M.D.; John Dale Hewson, M.D.; C. L. Robertson, M.D.; H. Maudsley, M.D.; John Sibbald, M.D.; Stanley Haynes, M.D.; W. Wood, M.D.; Henry Monro, M.D.; W. L. Lindsay, M.D.; J. Murray Lindsay, M.D.; Ed. Hart Vinen, M.D.; J. F. Duncan, M.D.; W. H. White, M.D.; Thos. Aitken, M.D.; G. Gilchrist, M.D.; J. W. C. M'Intosh, M.D.; James Rorie, M.D.; J. Crichton Browne, M.D.; Alex. Robertson, M.D.; J. Bruce Thomson, L.R.C.S. Ed.; James Rae, M.D. (Deputy Inspector-General R.N.); Charles Henry Fox, M.D.; David Brodie, M.D.; J. T. Arlidge, M.D.; Robert Jamieson, M.D.; James Howden, M.D.; John Smith, M.D.; Andrew Smart, M.D.; David Skae, M.D.; John Burke, M.D.; Frederick W. A. Skae, M.D.; James Sherlock, M.D.; J. W. Eastwood, M.D.; Daniel Iles, M.R.C.S.; J. S. Alver, M.D.; J. Dickson, M.D.; Harrington Tuke, M.D.

Visitors.—Sir John D. Wauchope, Bart., Chairman of the Board of Lunacy, Scotland; Arthur Mitchell, M.D., Deputy Commissioner; George Patterson, M.D., Deputy Commissioner; J. F. Wingate, Esq., London; John S. Butler, M.D. (Retreat, Hartford, U.S. Amer.); J. H. B. Browne, Esq.; Ernst Salomon, M.D. (Medical Superintend. of Malmö Asylum in Sweden); Dr. Rutherford, Bo'ness; Dr. Wm. Seller, Edinburgh; Edward Malins, M.R.C.S.; John M'Grigor, M.D.; M. Munro, Esq.; Russell Reynolds, M.D.; Sir J. Y. Simpson, Bart., M.D.; John Webster, M.D.; J. Macbeth, Esq.; Rev. Edwin W. R. Pulling, M.A.; Archibald Hewins, Esq.; Rev. Henry M. Robertson; David Murray, M.D.; Edward C. Robertson, M.D.; W. H. Reed, Esq.

Dr. William Wood, the retiring President, said—

Gentlemen,—My race is run, and I am about to descend from the proud position in which you have placed me during last year, in favour of a much greater man—a man well known to you all—and who has so much to say to you, and in such eloquent terms, that I will not trespass upon your time. I will therefore simply introduce to you our valued friend Dr. Browne, who will take the presidency. (Applause.)

The President, on taking the chair, said—

Gentlemen,—I beg to thank you for the honour you have conferred upon me, in placing me in the Presidential Chair of the Medico-Psychological Association. I think, instead of dwelling on my feelings of gratitude, and

your feelings of kindness in so doing, I had better at once proceed to tell you what I think Medical Psychology is, and ought to be. (Applause.) The President then delivered the usual Address from the chair. (*See Part I, Original Articles.*)

Dr. Tuke.—I should not rise anywhere else to propose a vote of thanks to our able President for his address, but I feel that, as a stranger here, I may be excused for so doing. I feel I can hardly find words to thank our President as I ought to do, after listening to the eloquent tribute he has paid to the memory of my dear relative, our friend Dr. Conolly. (Applause.) I will content myself, therefore, with expressing my own gratitude and I am sure the gratitude of all of us, for the eloquent address which our President has just delivered. (Applause.)

Dr. Monro.—I beg to second the motion. I feel that it is a very great honour to this Association to have had Dr. Browne as our President on this occasion. We have all listened to his interesting address with a great deal of pleasure.

Dr. Tuke said—I have letters from several members expressing regret for their unavoidable absence; among others, from our distinguished French *confrères* M. Brierre de Boismont and Jules Falret, also a letter to the same effect from Dr. Wolff, of Nova Scotia, containing suggestions which have been laid before the Council. I have, lastly, another letter, a very important one, from our esteemed friend Baron Mundy, who writes to me to the following effect:—

*"To the Secretary of the British Medico-Psychological Association,
DR. HARRINGTON TUKE, in London."*

"SIR,—Having for some years regularly attended the annual meetings of our Association, you will oblige me in excusing to the Society my absence from the present one.

"I deeply regret not being able to attend at a moment when our Association will undoubtedly celebrate the commemoration of its best member, the late Dr. John Conolly.

"For my part—I flatter myself you will agree with me—I could have not done better in following by deeds his often-repeated principles, than by entering the army of my native country as an honorary surgeon for the time of this terrible war. That may justify my absence.

"The bust of Dr. Conolly which I have sent to you is executed by one of the most renowned Roman sculptors—Cavaliere Benzoni. Be kind enough to present it to the Association as a humble gift of mine on this solemn occasion. I leave it to you and to my dear friend Dr. Maudsley to move, where—with the agreement of the Association—this memorial shall be placed.

"Believe me, Sir,

"Yours very sincerely,

"J. MUNDY,

"Regimental Surgeon."

"Pardubitz, in Bohemia;
7th July, 1866."

I can add nothing to this letter; it speaks for itself, and I leave its answer in your hands. The bust to which it refers is before you, Dr. Mundy having taken especial pains to have it sent from Rome in time for this meeting.

The President.—I deem it altogether unnecessary that I should make a formal motion that we accept, and accept gratefully, this most suitable gift and donation from Baron Mundy. As to its ultimate destination, I must leave that in the hands of the Council of the Association; and I think we ought to record, in some more than usual manner, our sense of

the appropriateness of the gift, our gratitude for it, and our hope that the presence of the bust of our friend may not only bring back to the older amongst us a recollection of all the good that he did and all the kindness that he displayed, but may in some sense and in some degree animate others to imitate the noble and glorious course which he so recently ended. I move that the bust be accepted, and that, in due form, the thanks of the Association be transmitted to Baron Mundy. (Applause.)

Dr. Wood.—It is scarcely necessary, but for form's sake, I second the motion.

Dr. Tuke.—I will take care that the thanks of this meeting and my own shall be transmitted to our friend for his munificent and thoughtful gift. I think, as this letter leaves it to Dr. Maudsley and to me to suggest the destination of this bust, with the agreement of the Association I may propose now a scheme for the consideration of this meeting. We would ask the permission of the Association to present the bust of Dr. Conolly to the Royal College of Physicians in London. I have seen the president, Sir Thomas Watson, who will cheerfully employ his influence with the Fellows to have the bust accepted as a gift from the Association. If this proposition meets the approval of the Association, the bust will probably be placed in the Library of the Royal College of Physicians in London, where the meetings of this Association, through the kindness of the President and Fellows, have been so frequently held.

Dr. Maudsley.—I second the motion.

Dr. Monro.—I was not aware that this bust of Dr. Conolly was about to be offered to the Association, but I came here intending to make a suggestion that a subscription should be inaugurated by this Association to raise a memorial to Dr. Conolly. I feel that, as we have had the honour of having so distinguished a man as Dr. Conolly amongst us, it will be one of the best means of perpetuating this Association to get up such a memorial. I do not exactly know what the memorial should be; but I have spoken to one or two of my friends, and I find that they are favorable to getting up some memorial of Dr. Conolly. I must advert to one or two peculiar reasons why I have taken the great liberty of coming forward to make this proposal. I believe I was Dr. Conolly's first pupil at Hanwell; and since that period I have been in the continual habit of meeting him in practice, and I have always received such great kindness from him that I cannot help feeling a most peculiar gratification in bringing forward this motion. I feel that it would be utterly beside the mark to enter here into a general panegyric of Dr. Conolly after the address to which we have just listened. We all of us appreciate the high character and great worth of our late friend, and there is no likelihood of his memory being forgotten by any of us. At the present moment I would suggest the idea of a subscription being commenced by this Association, which might become a more general subscription or not, as the gentlemen here may think right. I wish the question to be a little discussed, whether we should raise such a subscription; and if so, what the memorial should be? I am exceedingly glad to hear the proposal to present the bust to the Royal College of Physicians of London. That was the scene of the labours of Dr. Conolly. He used to be constantly at the meetings of the Fellows there.

The President.—Dr. Monro has permitted me to second his proposition, in which I most cordially concur, for the reasons he has stated, and even broader ones, on which I shall not dwell. I think it is desirable that some memorial, emanating from the Association itself, as an abiding memento of this great man, should be forthwith set about. As to its nature, and the mode in which the matter is to be set about, that may be for the discussion and deliberation of the Society now; and I shall be glad to hear any observations on the subject.

Dr. Lowe.—I imagine the suggestion has been made to elicit the opinions of those present; but I wish to suggest a doubt whether we are right and wise in alienating irrevocably the bust which has been presented to this Association. (Applause). I cannot imagine any more appropriate place than the College of Physicians as a temporary locality; but I think the time may come when we may value exceedingly for our own institution such a bust as that (Hear, hear), and I would like to ask whether something might not be introduced into the proposal which might recognise the possibility of the return of the bust to this Association.

Dr. Stewart.—I quite agree with the last speaker. I think it would be in a measure stultifying ourselves to give the bust of the individual whose memory will ever be respected by us permanently away from the Association. It struck me, when the proposal was made, as rather a singular one, that we should hand over to a different body a bust which was presented to ourselves, and which should be retained by us a memorial of him who has passed from amongst us. If Dr. Lowe moves an amendment to keep the bust, I will second it.

Dr. Lowe.—I feel reluctant to take any marked step against the proposal; but I am quite ready to do so if it is considered advisable,

Dr. Skae.—It may save discussion if Dr. Tuke would modify his proposition to this—that the bust should be placed in the guardianship of the College of Physicians till the Association has a hall of its own.

Dr. Tuke.—The reason why I suggested the Royal College of Physicians was, that, with great liberality, that body has always acknowledged the existence of our Society, and has invariably allowed us, since Dr. Watson was president, to meet in its rooms when the Association met in London. I thought it would be a suitable act of courtesy towards that body; and, at the same time, I think that the compliment to Dr. Conolly would be greater than in our keeping it for a problematic hall of our own.

Dr. Skae.—I think it would be courtesy to the giver that we do not alienate altogether his gift to the Society, but that we request that the College of Physicians will take the guardianship of the bust. If Dr. Tuke would modify his proposal to that effect, I think the Society would at once agree to it.

Dr. Wood.—I think the terms of this gift seem almost to imply that the giver intended that the Association should place the bust of Dr. Conolly in some suitable place. I almost doubt, although I have no authority whatever for the statement, whether we could with propriety ask the College of Physicians to keep the bust for us. Seeing we have received various acts of kindness from them, I think we would perhaps hardly be justified in asking them to accept the responsibility of keeping the bust for us. Of course, the feeling of the Association generally is to do the greatest possible honour to the memory of Dr. Conolly; and if there is any other place in which greater honour would be conferred on his memory than the Library of the College of Physicians in London, I would by all means vote that it should be placed there; but it does appear to me that, until we have a local habitation, it is a little inconvenient to have the charge of such a valuable bust—valuable as a very excellent likeness of a very great man, and also as the work of a very eminent artist, and as coming to us in peculiar circumstances. I feel assured that, as far as Baron Mundy is concerned, he would be well content that the discretion of the Association should be exercised in placing it wherever we think most suitable; and as it has been left in the hands of the two sons-in-law of Dr. Conolly to determine where it should be placed, I think the Association would be paying proper deference to the feelings of those two eminent psychologists to place it in the Library of the College of Physicians, as they suggest. The proposition of Dr. Menro seems

appropriate to this occasion, because in talking over the affair before the meeting, one of the various forms which were suggested for this memorial was a copy of that bust by one of the most skilled of our sculptors, which could be made at any time. For the present, however, it is of the greatest importance to place the bust where it will be well cared for, and at the same time that it confers honour on the College of Physicians to present it to that body, it would perpetuate the memory of a great man.

The President.—I shall be happy to hear any observations from any member on this subject. I may say, however, that in presenting this bust to the College of Physicians, not as guardians, but as possessors, we are placing it appropriately in the hall of that College of which Dr. Conolly was so distinguished a member.

Dr. Monro.—I omitted to mention what was on my mind formerly, that it had been suggested that a copy of this bust might be taken and retained for ourselves. In that way we should have the double satisfaction of presenting it to the College of Physicians, and thus having it placed in a position of great honour, and also of having a memorial of Dr. Conolly amongst ourselves.

Dr. Eastwood.—I would suggest whether it is not worthy of consideration, whether steps should not be taken for having a permanent place of meeting for this Association. If this was done, we might keep the bust, and the place might be called the Conolly Rooms, or the Conolly Institution.

Dr. Duncan.—The idea of a permanent hall at present is out of the question, although it may not be Utopian at some future period. Probably it might be advisable to ask the College of Physicians to take the guardianship of the bust, which practically would be a gift.

Dr. Sibbald.—Might it not be possible to ask the College to become permanent custodians of the gift? That would be practically presenting the bust to the College of Physicians, and at the same time continuing the connection between this Association and the bust which Baron Mundy has so handsomely presented.

Dr. Vinen.—I would suggest that a proper inscription be placed on the bust, with the name of the donor, and a statement of the circumstances in which it was presented to the College of Physicians. That would free us of all difficulties, and, at the same time, defer to the wishes of the two sons-in-law of Dr. Conolly. (Applause.)

Dr. Tuke.—In accepting the gift from us, I believe that the College of Physicians would not in the slightest degree object to an inscription being placed on the pedestal with the names and a statement of the circumstances under which it came into the possession of the College of Physicians. I now confess my own feeling of a great desire that the College of Physicians in London should possess the bust, and I hope the resolution will now be agreed to in the modified form suggested by Dr. Vinen. (Applause.)

The resolution was adopted unanimously, and it was agreed that the mode of presenting the bust should be left to the Secretary and Chairman.

Dr. Monro.—I beg now formally to move that a subscription be raised for a memorial to Dr. Conolly.

Dr. Sherlock.—I am anxious to see numerous copies of this elegant bust; but, perhaps, some other plan might be suggested of having a suitable tribute to the memory of Dr. Conolly.

Dr. Wood.—There is a receptacle for the effigies of our great men. There is a place called Westminster Abbey; and as Dr. Conolly was one of the greatest men of our day, I do not know whether it would be asking too much, if we could raise sufficient money to get a place for a statue in Westminster Abbey. As to the scheme of having a hall of our own, I am afraid the youngest of us will scarcely see that day. We number at present 200.

Suppose our number doubled, our expenses would leave us a small margin for keeping house; and if we are to have a local habitation, it must be something worthy of the position we assume. I doubt whether we shall ever be able to have a better place of meeting than the hall of the College of Physicians in London; and if we delay doing any honour to Dr. Conolly till we have a hall of our own, I am afraid we shall never live to see it.

Dr. Monro.—It will be better to refer the matter to a small committee of the Council, to report next year what subscriptions have been raised. (Applause.)

Dr. Tuke.—According to the rules of the Association, the place of meeting next year will be in London; and the Council would have proposed to-day the name of a most distinguished member of our body for the Presidency next year, which we feel sure would have been received with gratification, were it not that the illness of the gentleman in question prevents us having the great pleasure of electing him as our President. I refer to Professor Laycock, whose serious illness we much regret. In the circumstances, the Council have not named any one as President-Elect, and it is for the Association now to nominate a President.

Dr. Skae.—I have not had the opportunity of talking over the subject to any of my fellow-members to any extent; but I have very great pleasure in proposing as President for next year our esteemed friend Dr. Charles Lockhart Robertson. (Applause.) I have great pleasure in making the proposal. The interest which he has taken in the proceedings of the Society, and the energy and activity which he has shown in many respects, entitle him to be placed in the position of President at an early period. I therefore propose that he should be President.

Dr. Monro.—As an old friend of Dr. Robertson, I beg to second the motion.

The resolution was carried unanimously.

The President.—The next business is to elect Editors for the Journal; and I propose that the Editors, Dr. Lockhart Robertson and Dr. Maudsley, be re-elected Editors of the Journal.

The resolution was carried unanimously.

Dr. Paul was then re-elected Treasurer, and Dr. Harrington Tuke Honorary Secretary,

Dr. Tuke moved that Dr. Crichton Browne be appointed with Dr. Sheppard as Auditors, which was agreed to.

Dr. Wood proposed the re-election of Drs. Rorie and Stewart as the Honorary Secretaries for Scotland and Ireland, which was seconded by Dr. Maudsley and agreed to.

Dr. Robertson.—There are two vacancies in the Council: we propose to fill these up by the appointment of our Ex-President, Dr. Monro, and Dr. Campbell.

Dr. Skae seconded the resolution, which was agreed to.

In the unavoidable absence of Dr. Paul, Dr. Robertson presented the Treasurer's annual balance-sheet, which was unanimously adopted.

1866.]

Notes and News.

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The Treasurer's Annual Balance Sheet, July, 1866.

VOL. XII.

RECEIPTS.		EXPENDITURE.	
	£ s. d.		£ s. d.
By Balance, 1864-5	9 13 3	Annual Meeting	13 7 8
By Subscriptions received—		Editorial expenses (one year)	24 9 10
By Secretary for Ireland	170 5 0	Printing and publishing four numbers of the Journal	149 4 2
By Secretary for Scotland	27 4 0	Sundries—	
H. C. Bastian, Esq., for Printing Tables	24 3 0	Treasurer	1 10 0
	3 0 0	Secretary for Ireland	0 8 2
		Secretary for Scotland	0 4 8
		General Secretary	7 2 0
		Balance in Treasurer's hands	37 18 9
	<u>£234 5 3</u>		<u>£234 5 3</u>

(Signed) J. H. PAUL,
Treasurer.

Examined and found correct,

(Signed) JOHN SIBBALD, for *Auditors.*

ROYAL SOCIETY'S ROOMS, EDINBURGH;
31st July, 1866.

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Dr. Tuke said that there had been proposed and seconded the following list of new Members, twenty-three in number; and he had much pleasure in stating that among them was the name of *Dr. Wilks*, the distinguished Physician of Guy's Hospital, the first who had joined the Association under our new rule of admitting any member of the profession interested in our special studies.

Thomas Howden, M.D., Haddington.
 Edward Hall, Esq., Blacklands House, Chelsea.
 J. H. Hughes, Esq., County Asylum, Morpeth.
 G. R. Paterson, M.D., Deputy Commissioner of Lunacy, Scotland.
 Evan Jones, M.D., Dare Villa, Aberdare.
 Frederick Skae, M.D., Morningside.
 W. B. Kesteven, F.R.C.S., 1, Manor Road, Upper Holloway.
 F. Maccabe, M.D., District Asylum, County Waterford.
 W. Smart, M.D., Allva Street, Edinburgh.
 A. Robertson, M.D., City of Glasgow Asylum.
 J. B. Thomson, Esq., General Prison, Perth.
 Thompson Dickson, M.D., City of London Asylum, Dartford.
 Arthur Mitchell, M.D., Deputy Commissioner of Lunacy, Scotland.
 J. Shepherd, M.D., Eccles, near Manchester.
 W. H. Reed, Esq., County Asylum, Derby.
 H. L. Kempthorne, M.D., Bethlehem Hospital.
 Ernst Salomon, M.D., Malmö Asylum, Sweden.
 David Brodie, M.D., Institution for Imbecile Youth, Larpen, Stirling.
 J. B. Tuke, M.D., Fife and Kinross District Asylum.
 John Lorimer, M.D., Ticehurst, Sussex.
 Samuel Wilks, M.D., St. Thomas' Street, Southwark.
 James Rutherford, M.D., Bo'ness, Linlithgowshire.
 J. Hughlings Jackson, M.D., 28, Bedford Place, Russell Square, W. C.

The twenty-three gentlemen were unanimously elected.

Dr. Tuke.—The following gentlemen have been proposed as Honorary Members:—The Hon. W. Spring Rice; Sir James Young Simpson, Bart., M.D.; William Seller, M.D.; W. Laehr, M.D., Berlin. Their names are well known to us all, and I need do no more than read the list, which has been made out and circulated in accordance with our rules.

The Honorary Members were elected unanimously.

Dr. Robertson proposed that Mr. Cleaton, one of the Commissioners of the Board of Lunacy, should be elected an Honorary Member.

Dr. Maudsley seconded the motion.

Dr. Tuke pointed out that the standing orders required notice to be given before any honorary member could be elected.

Dr. Robertson withdrew his motion, and, in compliance with the standing orders, converted it into a notice of motion for next meeting.

The Chairman.—There is a note from Mr. Blake, M.P., which has been under the consideration of the Council, suggesting that we should present an address to Her Majesty, praying for the appointment of a Royal Commission to inquire into the treatment pursued in lunatic asylums towards the insane.

Dr. Crichton Browne.—Mr. Blake proposes to devolve on a Royal Commission the functions already carried out by the General Board of Lunacy. I do not suppose this Association would wish that there should be any more inquiries into the subject that might appear to clash with the present Boards.

Dr. Monro.—I think this subject cannot be taken up without an exposition from Mr. Blake himself of his exact object in making the proposal.

It was agreed that Mr. Blake should be informed that the Association could not take up the subject without hearing his proposal from himself.

Dr. Tuke.—I have given notice of the following resolution for this meeting:

"That a diploma of membership should be lithographed for members and honorary members, to be presented to them on their election." I brought this to-day before the Council, who were to some extent adverse to it; and I have so far modified my original resolution, in consequence of the advice of our President, so as to make my motion read as follows:—"That the diploma of membership should only be granted to members after having been so for five years." The reason for that is, that a gentleman may be elected and take to another profession. I would propose, therefore, that the diploma should only be given after five years, and that no diploma should be given to any medical man who is not engaged in our speciality. At all events, whatever may be decided as to ourselves, I think this resolution should be carried in regard to honorary members. We have many honorary members, and I think we might follow the example of our Parisian friends, and send them a diploma. I have brought this sketch of a diploma, such as that which I would suggest for the adoption of the Association.

Dr. Robertson.—I second the motion.

Dr. Monro.—It is now proposed that the diploma should be given to those who have continued members of the Association for five years, and more especially to the honorary members. Now, I object a little to the whole idea of this diploma; but I certainly feel that the granting of a diploma to honorary members is the least objectionable part of this proposition. I agree with Dr. Tuke that there should be a printed form expressive of the special honour which is conferred upon the honorary members, but I should not be inclined to call it a diploma, because, although I believe the real meaning of the word diploma does not amount to very much, still we are in the habit of considering a diploma as being granted where special powers are granted, such as a diploma to practise, and so on. In associations similar to this, such as the Medical and Chirurgical Society, there is no idea of a diploma, and I do not see why we, a young and rather feeble Society, should have a diploma. It is rather grand, and we might have it quoted against us that we were bombastic in our treatment of the subject. I do not see any special reason why members for five years should get a diploma. I do not see what use they could make of this diploma. I presume no member of this Society would frame such a diploma.

Dr. Tuke.—I do not know why not.

Dr. Monro.—Well, I should rather think it *infra dig.* for them to do so. A five years' member may have only shown his ability to pay five guineas and his possession of a good moral character. I think it is far too grand a thing to give to any of our ordinary members. It is not advisable to have two sorts of members, some holding diplomas and some not holding diplomas. If there is any real honour in our diplomas it is a little invidious to make any selection, except in regard to the honorary members. It would be literally impossible to give a diploma to guinea subscribers, because, suppose a gentleman subscribed for one year and then gave up, he might use his diploma as a sort of certificate in applying for the superintendence of an asylum. I would move, as an amendment, "That it is expedient that a printed certificate of membership should be presented to honorary members on their election."

Dr. Maudsley seconded the amendment.

Dr. Wood.—I sympathise with Dr. Monro's view of this matter. It is usual, when anything new is proposed, to hear reasons for it. Now, I am not aware that Dr. Tuke has given us one reason why we should assume the importance of issuing a grand certificate of the kind he has exhibited when our illustrious friends the Royal Society of Edinburgh are content with such a modest paper as this. There is this objection to our issuing this diploma. In the first place, a diploma is to be given to men who have gone

through a certain amount of work, and have fitted themselves legally for a certain legal status. Now, this testimonial is to be given to men whom, perhaps, none of us have ever seen, who may be personally unknown to us, who may be known to just one or two from his official position, sufficient to enable him to get admission to our Association, and after five years he is to be considered eligible for this illustrious document. Now, it does appear to me that if our members are worthy of admission to the Association they are worthy of all we can do for them, and I cannot quite enter into the view that they must wait five years before they can be so distinguished as to receive this paper. Then there is this objection to issuing this official diploma. It has been mentioned that it is not the most worthy members of associations who think it worth while to frame and glaze evidence of their membership, and I can conceive the possibility of such a document as this being put to other than a most worthy purpose. It does appear to carry with it a sort of recognition of the individual's position (hear, hear), which, perhaps, he may be fairly entitled to. I confess I am more disposed to adopt the amendment than the resolution. It is reasonable that especially foreign honorary members should have some distinct evidence of their admission to honorary membership; but in regard to the ordinary members it appears to me at least unnecessary, and no good reason has been assigned why we should depart from the general custom in other associations. While we were discussing this question in the Council our esteemed friend Dr. Butler came into the room, and our friend Dr. Tuke referred to him whether it was not the practice to confer distinction in that form in the United States, and he was a little disappointed to hear that there was nothing of the sort there. I think that, for this year, we may be content with having an official notification given to the honorary members, but for the ordinary members there is something invidious in telling a man to wait five years for a diploma.

Dr. Tuke.—I have not the least objection to give it at once to all members. The proposal to limit it to members for five years was made out of deference to Dr. Browne's opinion on the subject.

The Chairman.—I think my recollection was that it should be ten years.

[A vote was then taken, when the amendment was declared carried. The original resolution was not pushed to a division.]

Dr. Lockhart Robertson.—I beg to move "*That the Committee on Asylum Statistics be reappointed, with the view of furthering the adoption of a uniform system of statistics in the Annual Reports of the Public Asylums of Great Britain and Ireland, and of our Colonies.*" The Association is aware that I have for some years now been urging their attention to the important question of the adoption of a uniform system of statistics in the annual reports of public asylums. At our annual meeting for 1860 (held in London) I read a paper, "*Suggestions towards a Uniform System of Asylum Statistics,*" which was published in the '*Journal of Mental Science*' for October, 1860. Again, at our annual meeting for 1864, held at the Royal College of Physicians, I moved for a committee to prepare a report on this question. This report was submitted at our last annual meeting (1865), and unanimously adopted. The report is printed in the '*Journal of Mental Science*' for October, 1865. The committee on that occasion contented themselves with suggesting six tables which might serve as a basis for a uniform system of asylum medical statistics. These tables were, however, regarded by them "only in the light of a principal instalment of those which are desirable." I am glad to be able to report that these tables of the committee have already met with considerable success, and have this year been adopted in the reports of many of our county asylums. The labours of this committee have also been most favorably noticed by the Commissioners in Lunacy in their last Annual Report to

the Lord Chancellor. I take the liberty of reading to this meeting the observations there made:—

“The importance (observe the Commissioners) of adopting in all asylums a uniform system of statistical tables and registers has long been felt by us, and we are glad to find that the subject has recently been again under the consideration of the Medico-Psychological Association, at whose last meeting a committee to whom it had been referred submitted forms of tables which were adopted and recommended for general use. These tables, confined to medical statistics, are simple in form, and only include the main and most important facts required to constitute a basis for more elaborate and detailed information.

“The superintendents of most county asylums publish in their annual reports tables more or less elaborate, and containing a large amount of valuable information. While, however, the facts recorded may be identical in many if not most of the reports, the form in which they are recorded varies so greatly that it becomes impossible to tabulate them for the purpose of showing general results.

“In any future legislation it would no doubt be desirable, as suggested in the report alluded to, so to revise the present ‘Registry of Admissions’ as to include some of the more important particulars required, in order to obtain correct statistics of insanity. But in the mean time we trust that, with the view of facilitating statistical comparison, the visitors and superintendents of all institutions for the insane will not object to adopt the forms of tables recommended, which will be found in Appendix (I).

“Table I gives the numbers of admissions, readmissions, discharges, and deaths, with the average numbers resident during the year; the sexes being distinguished under each head.

“Table II gives the same results for the entire period the asylum has been in operation.

“Table III furnishes a history of the yearly results of treatment since the opening of the asylum.

“The table also embraces a column for the mean population, or average numbers resident in each year. In other columns are shown for each year the proportion of recoveries calculated on the admissions; and the mean annual mortality, or the proportion of deaths, calculated on the average numbers resident. It is of the first importance that these two principal results under asylum treatment, when given, should be calculated on a uniform plan, and according to the methods here pointed out.

“Table IV gives a history of each year’s admissions; how many, for example, of the patients admitted, say in 1855, have been discharged as cured, how many have died, and how many remain in the asylum in 1865.

“The value of this table in regard to the vexed question of the increase of insanity is evident. The table is adopted from the Somerset Asylum Reports.

“Table V shows the causes of death classified under appropriate heads. This form is adopted from the Reports of the Commissioners in Lunacy for Scotland, with some addition and modification. It appears sufficiently detailed for statistical purposes.

“Table VI gives the length of residence in the asylum of those discharged recovered, and of those who died during the year.

“Uniformity in recording the ages of patients on admission, the duration of the existing attack, and the form of mental disorder under which they labour, is also very desirable; and it is to be hoped that the medical officers of asylums may see the great importance of coming to some agreement upon these points. How far the table of the causes of death may require modification or extension will be a matter for subsequent consideration.”

In order to carry out the work thus begun, and here so favorably noticed. I beg to move the reappointment of the former Committee on Asylum Statistics.

Dr. Maudsley seconded the resolution, which was agreed to unanimously.
The meeting was then adjourned till Three o’clock.

AFTERNOON MEETING. *The President.*—The first paper on our list is by Dr. Webster.

Dr. Tuke said,—Sir, before the business of the meeting commences I am anxious to lay before you the following letter, which has just been put into my hands. Dr. Butler is now present.

“John S. Butler, M.D., of the Retreat for the Insane, Hartford, Conn., and Vice-President of the Association of Medical Superintendents of American Institutions for the Insane, is appointed a delegate from this Association to the Medico-Psychological Association of Great Britain, which holds its meeting in Edinburgh, July 31st, 1866.

“JOHN CURWEN, M.D.,
“*Secretary of the Association of Medical Superintendents of American Institutions for the Insane.*

“*To the President, Medico-Psychological Association.*
“*July, 1866.*”

The President.—I am sure the meeting will receive the distinguished delegate of our sister Association with much pleasure, and I trust that he will join in our debates. We are glad to welcome him among us. (Applause.)

Dr. Butler shortly expressed his thanks, and the President then called on—

Dr. Webster, who read the paper of which notice had been given, “THE INSANE COLONY OF GHEEL REVISITED.” *See Part I, Original Articles.*

The President.—I shall be happy to hear any observations that may be made on Dr. Webster's paper on the present condition of Gheel.

Dr. Monro.—I would like to know if I clearly understood Dr. Webster to say that in about a thousand cases there were about five in hobbles, because I understand that Dr. Webster upholds Gheel as a pattern place.

Dr. Webster.—Not the hobbles.

Dr. Monro.—I was going to say that in Scotland or England we would hardly dare to acknowledge that we used hobbles for any of our patients. I am afraid that looks as if the Gheel system was something not so far advanced as the English system.

Dr. Webster.—You know that though they have hobbles on they can walk wherever they like.

Dr. Monro.—I do not know, exactly, what hobbles are.

Dr. Webster.—They are a band round the ankle, so that the patients cannot take a long step, but they can take a short step.

The President.—There was another point where I failed exactly to catch the meaning of Dr. Webster. I think he spoke of the ratio of cures being 69 per cent. I presume that must have been recent cases and selected cases, because if such be the per-centage in Gheel it is indeed a pattern place.

Dr. Webster.—This return of 69 per cent. refers to the last ten years' patients, and only to those considered likely to be curable, excluding paralytic patients.

Dr. Monro.—I should not call 69 per cent. a remarkable proportion if you only take curable cases.

The President.—Not if you exclude all epileptic and paralytic cases—in fact, if you exclude all incurable cases.

Dr. Monro.—We have had 68 per cent. of that class of patients cured at St. Luke's, but not just lately.

Dr. Sibbald.—I have listened with a great deal of interest to Dr. Webster's paper, and I do not like to let it pass without making one or two remarks upon it. I visited Gheel twice myself, and I saw a great deal there that I

thought was very instructive. I think that the principal lesson which may be learned from Gheel is, that there are a large number of lunatics who may be treated in private houses outside the walls of asylums, who previous to recent times were supposed to require the restraint of an asylum. But I saw at Gheel a great many symptoms of restraint which were certainly worse than anything you will find in an asylum. I think that such things as these hobbles, and a great many other forms of restraint which I thought exceedingly objectionable, and some of them most cruel, ought to be abandoned. I think it is a great pity that, at the present time, Dr. Webster has not been able to report that these things are now done away with in Gheel. Those patients who are under restraint should not be in Gheel, and they would not require restraint, and would be much more suitably treated in an asylum.

Dr. Webster.—I state, in my paper, that the number of patients who have hobbles were much fewer than on my previous visit. I saw no strait-waistcoats, which I am sorry to say I saw in many foreign asylums. It must be kept in view that on the Continent many medical men have not the same objection to force being used as we have in England, though in many parts of France I found a great improvement in this respect. Those persons who had the hobbles can walk about, though they cannot go a great distance. I consider that I have seen worse forms of restraint than those I saw in Gheel, where the system has greatly improved during the past ten years, and I have no doubt that ten years hence it will be still further improved.

Dr. Take.—I think it is much to be regretted that Dr. Webster did not take up the question whether the Gheel system should not be more generally followed than it is in England. I think we do not advance the matter by merely describing Gheel as it is, unless we get some opinion as to whether the Gheel system is or is not a right system; and Dr. Webster has carefully avoided giving such an opinion. I think that the Gheel system is not a right one, and I say so with some hesitation, because I find that the opponents of Gheel are described by those who advocate it as the opposers of all liberal movements. Gheel is called—very improperly, I think—a free-air, liberal system. All that is precisely begging the question. I deny that altogether, and it is for the advocates of the system to show that it is so, and that it is successful. Dr. Webster seems to me to have entirely failed in doing that. He gives too few figures to justify any safe conclusion from them; but he says that there were about 1500 patients, and that 290 were excluded as being paralytic or epileptic. I made a note at the time that the cures amounted, taking the whole cases, to something like 27 per cent. Now, a proportion of cures of 27 per cent. in a place like Gheel is excessively bad. The Report of the Commissioners of Lunacy is very imperfect in statistics of this sort, but I find that the average number of patients received into small asylums—which I take to be the nearest resemblance we can show to Gheel—show a proportion of cures of 33 per cent., very much more than that of Gheel. I do not produce this, of course, as proving anything; I only say that, if the figures were the criterion, our figures show that the Gheel system is inferior to the best form of a really more liberal, free-air system which we have adopted in England. There can be no question that the proper object of asylum treatment is to give as much liberty as is consistent with safety to the patient and to the public. The question about Gheel resolves itself into this—Is the treatment for the pauper poor at all to be compared with the treatment of patients of a higher rank? Do the advocates of the Gheel system wish to treat the two classes together? If they do, I tell them that the scheme of Gheel is absolutely and entirely impossible. It is impossible to take people of rank and high social position and send them

to a village like Gheel; and for this reason, that not only would there be the danger of these doing some damage to themselves, but there would be a risk of their injuring the reputation of their families by some act of folly. That is one reason why the Gheel system cannot be carried out. But the question has two sides: the one is, that private asylums can be very much improved; and the other is, that Gheel may be very much improved. The system of restraint at Gheel stands lamentably in need of improvement; and then there is the question of medical treatment, which is the most important of all. The whole question of the treatment of the insane ought to be primarily a medical question, and it seems to me that if you scatter about 1500 patients, say in 700 houses, they cannot have proper medical treatment, and without proper medical treatment I look upon the whole treatment of insanity as merely a question of board and lodging; and in my opinion, if there is not proper medical treatment it is equally bad whether the patient is boarded and lodged in a cottage by himself or in a larger house. My advice to the advocates of Gheel would be to get up a whole colony of small asylums, and give the charge of each asylum to a medical man. They would then find the ratio of cures increasing, and they might some day attain to the rate of cures to which we have attained in our private asylums in Scotland and England.

Dr. Monro.—Dr. Webster will, perhaps, be so kind as to answer the question whether he looks upon Gheel as an example for England, or whether he looks upon it as at all equal to the English treatment, because certainly his account would give the impression that it was very far behind.

Dr. Webster.—Dr. Tuke has alluded to the medical treatment of patients. Gheel is divided into four sections, each of which has a physician who sees the patients and attends to their medical treatment. If any serious illness affects any of them they can be more frequently seen, or they can be sent to the central hospice. The medical treatment at Gheel is pretty much the same as elsewhere. These four medical gentlemen are men of experience; and in addition to the four physicians there is one surgeon who attends to surgical cases, and a medical superintendent. There are six medical men in the place, therefore I do not think the medical treatment is at all defective. It has been asked whether, in my opinion, such an establishment should be set up in this country. I have no hesitation in saying that it might, but that there are difficulties to be encountered. You must get proper attendants, people that are accustomed to it, and there are few places in this country where it could be carried out to any extent. When I had the pleasure of visiting the new asylum at Inverness I understood from Dr. Aitken that they intended to have a system of that kind there—small cottages for the patients upon the system of Gheel, though, of course, in a less extensive form. Gheel is not at all adapted for ladies and gentlemen, to a certain extent; but it is adapted for a larger proportion of lunatics, and in such a place as that they are more likely to spend the rest of their days comfortably. I do not wish to be a strong advocate of the Gheel system. My eyes are open to the difficulties and objections that may be urged against it; but I hold that a similar system is very desirable. It is talked of in Belgium that they are to have another establishment of the same kind to the westward. There is one, I think, near Lyons. I have no hesitation in saying that I think there are strong reasons why such an establishment may be set up in this country, as elsewhere, but of course there are certain cases for which it might not be adapted. As to the cases, I may say that I mentioned that the average cures at Gheel, excluding general paralysis, amounted to upwards of 30 per cent.

The President.—Thirty per cent.? To what, then, did your 69 per cent. apply?

Dr. Webster.—I said that of 1417 cases the per-centage of cures was 30·69 per cent., excluding general paralysis.

Dr. Tuke.—What is the entire number of patients without any exclusion?

Dr. Webster.—The patients of every description admitted for the last ten years was 1696, and the cures were 434. Subtracting the cases of general paralysis and epilepsy, of which none were cured, the average cures of every form of insanity were about 30½ or 30¼ per cent.

Dr. Monro.—I would ask Dr. Webster whether he does not think that is a very small per-centage of cures, considering that paralytic and epileptic cases are excluded?

The President.—It is equal to the general per-centage of the county asylums.

Dr. Webster.—It is even greater. It is greater than it was in Hanwell a number of years ago.

Dr. Monro.—In Hanwell all cases are included.

Sir James Coxe.—A great proportion of the patients at Gheel are already incurable when they are sent there.

Dr. Wood.—Gheel is more strictly an asylum than any of our asylums. In our asylums we have a considerable proportion of recent cases, greater than at Gheel. I think Dr. Tuke under-estimated the medical care at Gheel, because, if he compares what is expected in the way of supervision from our own medical officers, he will find that the patients are amply provided for at Gheel. Indeed, taking the number of patients and the number of doctors, I think it is at least equal to what we have in any of our asylums; and if we compare it to a population extending over any considerable area, we shall find that it is in excess of what we in England provide for the sick poor. Therefore, it does not appear to me that the proportion of doctors to patients is so small as Dr. Tuke would seem to fancy.

Dr. Tuke.—It appears to me that it will be 250 patients for one doctor, or four to 1000, scattered about in separate houses.

Dr. Webster.—The superintendent is five and the surgeon six.

Dr. Tuke.—Well, take six, and assume that they are all there, I contend that it is not enough. The system there is, perhaps, the best we can afford for the poor; but the question is, not what we can afford, but what is best. Now the Gheel system is not the best. It is of the most vital consequence, if you want to cure the insane, that the moral influences of the trained, educated mind of the medical superintendent should be brought as much as possible to bear upon the wounded and diseased mind. I should think that Dr. Browne's recent report of the state of the poor in the Scotch cottages ought to have settled the whole system of Gheel for years to come. But still, if it is to be considered proper treatment, let us have it clearly stated, whether it is for poor or rich, for curable or incurable patients. There can be no question that if an insane tailor could be boarded with a sane tailor and his wife, and he could be put gradually to work, that would be infinitely better than to put him to work with many insane tailors in an asylum, containing a thousand patients. But is that what can be done? It appears to me that you should be careful to decide that question before you destroy our public asylums, because the advocates of Gheel would in reality destroy our public asylums (cries of "No, no.") Pardon me, I am talking of what I know to be true. If a man says that a certain system is a better one than that now in use, then, if it be a better one, the better ought to be adopted. We have had it in our own *Journal* put distinctly to us that it would be much better that all these incurable, and paralytic, and foolish, and demented cases should be taken out of our asylums and put in separate places. Now, there can be no doubt whatever, I think, that that is very absurd.

Dr. Maudsley.—It is not a question of entirely overthrowing our county

asylums, because it is well known that many of them are at present overcrowded, that a second asylum had been found necessary in many counties, and that in many cases new asylums are proposed for boroughs. It therefore becomes a serious and important question whether you are to go on extending asylums in the way you are doing, or whether you cannot in some mode relieve existing asylums. Now, there is one question that has not been considered here for a moment. What right have you to deprive a man not dangerous to himself or others of his liberty by sending him to an asylum? So long as he is not dangerous to himself and others, and proper medical care is exercised over him, why deprive him entirely of his liberty? Why not, if possible, put him in a cottage with his own friends, or with others who are willing to take charge of him for a suitable payment? If he is a pauper, he will be kept with his own friends at small expense. But it is not entirely a question of expense either. If the man is hopelessly incurable, so long as he is not dangerous to himself or others, that man has a right to the greatest amount of comfort he can have. If he can have that in a cottage, then, though it costs a little more there than in a county asylum, we ought to give it to him. No one would speak of setting up in England the Gheel system exactly. The population is too crowded in this country, the land too valuable, and it would be practically impossible to do so. But the practical question is whether, with so many asylums overcrowded, we cannot find any other system; and whether this cottage system may not afford us the required outlet for a certain class of incurable but harmless patients.

Dr. Crichton Browne.—How can Dr. Maudsley arrive at the fact that a lunatic is not dangerous? Any day a lunatic may be liable to commit serious acts of violence. We have had lamentable instances of this recently in this country; and it is not very long since a case of that kind occurred in this city. So far as I know, there is no test by which we can arrive at the knowledge as to whether a lunatic is dangerous or harmless. As to medical treatment, that objection is scarcely fair, because if you go to large county asylums you will find a large number of patients not subject to medical treatment of any kind. Sometimes patients in these asylums are not seen by the medical men because they are working out, and are not subject to medical treatment. Of course, in the case of patients whose disease has been chronic for ten years, it would be absurd to place them under medical treatment. There are no means known by which we can combat chronic insanity in that stage, except by those general moral principles that regulate an asylum. These are, of course, of great value; but I am not sure that the moral agencies brought to bear in some homes and private cottages are not still more valuable. I have not visited Gheel, and had no intention of discussing it here. I would just mention an experiment I made during the past winter. I had a small asylum of 120 patients. I selected ten patients from the quietest, the most harmless, and the most inoffensive, and determined to give them as much of the free and open-air system as possible. I allowed them to go out every day on parole to their friends, and they had perfect freedom to go in every direction within certain restricted bounds. Well, within a month I had to withdraw that liberty in four instances. They were the best patients I had, and yet I had to withdraw that liberty because they grossly abused it, and complaints were made to me of their conduct. Now, that certainly suggested itself to my mind that, if these very best patients gave way when they were still subjected to a certain amount of discipline, and knew that their conduct was watched, and that their privilege would be withdrawn if they gave way, it was not at all a satisfactory state of things, and did not tend to give one confidence in the Gheel system.

Dr. Wood.—I heard with some surprise the doctrine which Dr. Maudsley has mooted, which is one directly opposed to the teaching of our great Dr.

Conolly. He will remember a very remarkable case that was some years ago tried in the Court of Exchequer in London, when the Chief Baron held the doctrine which Dr. Maudsley seems now to hold. That doctrine was considered to be so opposed to the experience of all those who practised in London that Dr. Conolly took it upon himself to publish a pamphlet on the subject. The Lord Chief Baron held, as Dr. Maudsley appears to hold now, that we were not justified in curtailing the liberty of an insane person if he is not dangerous to himself and society. Now, I think there cannot be a more dangerous doctrine. I thoroughly agree with what Dr. Crichton Brown has said on that subject. We never know when an insane person is dangerous, or at what moment he will become so; and I think it must be clear to Dr. Maudsley's experience that many patients conduct themselves with great propriety in an asylum and yet when at large become dangerous lunatics. He shuts out of view some most important points. What is to become of a patient who, though not dangerous in the ordinary sense of the word, is so far dangerous in a moral sense that he may ruin himself, his family, and all belonging to him. Insanity is a disease which requires treatment in all cases, and that treatment, I maintain, can only be properly carried out by placing him under control. I apprehend there is a danger even greater than that which results from physical violence; and, in considering this question, we are apt to overlook one of the most important considerations of all. It is this, that a man who is in the prime of life and is begetting children is in a condition where he may propagate an insane race; and, I think, in such circumstances it behoves us, as philosophers, seriously to consider whether we are justified in placing a man who is avowedly in a condition of disease in circumstances that will enable him to propagate a diseased race. That has often struck me as one of the most important considerations in withholding liberty from patients who otherwise might be trusted. And I must say that in my own personal experience it has often influenced me in recommending the friends of patients to retain them, though they might not appear to be dangerous to society in the common sense of the word.

Dr. Maudsley.—Dr. Wood has been speaking to some extent under a misunderstanding of my meaning. It was no intention of mine to advocate the sending of patients out of asylums without any control. The system I advocated was that of sending patients to reside in cottages.

Dr. Wood.—But you raised that question as to control.

Dr. Maudsley.—Yes. I raised that question, and I think it is important. If you get an incurable patient, and see that he is incurable, and neither dangerous to himself nor others, my question was, why should you shut him up in a county asylum for the rest of his life? Put him in a cottage and allow his friends 5s. or 6s. a week to support him and take care of him, and arrange for the doctor and the Commissioners of Lunacy to visit him: see that he has proper superintendence. That would relieve your overcrowded asylums, but I never contemplated allowing insane persons to be left entirely without control.

Dr. Wood.—I was speaking of a proposal to leave persons without control. I have not the slightest objection to putting them in cottages if it can be arranged that they shall be under control.

Dr. Alexander Robertson (Glasgow).—I may state as a fact, which is of some importance in such a discussion as the present, that in the city parochial board a certain portion of selected patients whom I judged to be harmless were sent to cottages in the country to reside there, and have now been residing there for four years, and at our last inspection we were altogether well pleased with their condition. The question was put to almost the whole of them if they desired to get back to the asylum, and

not one of them had such a desire. It is right to say that six months ago we had to bring one back who had been found to be improperly cared for, but the person into whose care he had first been given had died. We are so much pleased with that system in Glasgow that we are disposed to extend it. I think that fact is of importance.

Dr. Crichton Browne.—I would ask Dr. Robertson if the Glasgow asylum is not an aged structure of a rather dismal description—whether it is such a building as that few persons would desire to return to it?

Dr. Alexander Robertson.—Certainly we cannot contrast our building favorably with the new institutions; but with the aid of the Commissioners it is now brought to a pretty good condition. The patients are boarded out with cottagers. There are several men and women. They reside there and work on the farm. They come to have an affection for their guardians, and the guardians have the same for them, and this proves that such patients can be selected and trusted there without anything wrong occurring. We have nine out of the small number of 150. In addition to that, I have selected some six more to be sent to houses selected by myself.

Dr. Monro.—I have not had any prejudice one way or another as regards this subject, because I am afraid I do not know sufficient about it to form a very strong opinion; but when I heard Dr. Webster read his paper I presumed he was reading a paper about something which he esteemed a pattern and example for others to follow. The few things that especially caught my attention were matters such as that about the hobbles. I do not want to make too much of that. But certainly the cures seemed to be an exceedingly small per-centage. I should say that fact after fact in Dr. Webster's paper seemed to intimate to me, who call myself an unprejudiced person, that the asylum was not succeeding, and yet I presume Dr. Webster read the paper in favour of that system. Then Dr. Maudsley spoke exceedingly strongly as to letting every chronic insane person who is not actually dangerous have all the enjoyments of life.

Dr. Maudsley.—As many of the Chancery patients have.

Dr. Monro.—Now comes a very important question, which I think should have been settled some time ago. Is it a more enjoyable thing for an insane patient to be in the hands of a farmer or poor cottager than in one of our county asylums? I think that that system of boarding out of workhouses, to which this system is very like, was looked upon as a thing quite exploded. I do not say the Gheel system is not a great deal better than that one, but still that is a point that was gone into before asylums were built to meet the great evils which existed then. Dr. Maudsley speaks of the comforts of those poor people. Of course, those of them who happen to fall into the hands of kind cottagers or kind farmers, and who are not obliged to hobble or to wear strait-waistcoats may be exceedingly comfortable, more so than in asylums. But I cannot conceive how a system which has a certain per-centage of things which we have utterly given up because we look upon them as cruel can be considered a system which is kind to the poor and allows the chronic insane to have the ordinary enjoyments of life.

Dr. Howden.—We are all, no doubt, aware that a certain number of insane people may live in cottages; but before putting very much value on the liberty enjoyed by those who live in those cottages, one would require to know more about the condition of these people. The cases referred to by Dr. Robertson have additional interest on account of their having been drafted from an asylum, though, in regard to what Dr. Maudsley has referred to, taking the question in the abstract, as to whether we have a right to deprive an insane person of his liberty unless he were dangerous to himself or others, it appears to me that we deprive him of his liberty as much by putting him in a cottage as in an asylum, and that the question is simply whether he is

better managed in an asylum or a cottage. In the asylum with which I am connected I have five cottages in which I occasionally board patients. There are always four or five patients boarded in these cottages, and they are under my own supervision, on the farm connected with the asylum. In some cases I have the greatest satisfaction in having the patients boarded there. In cases of convalescent insanity, in particular, I think the system of placing the patients in cottages, under a sort of supervision, before they are discharged altogether, is a very desirable one. At the same time, I must state that I have always great difficulty in getting patients to go to these cottages out of the asylum. I do not like to put imbecile patients, totally unable to take care of themselves, into cottages. I think they are better in an asylum, and I must say that I have always had difficulty in getting the other patients to go into those cottages who would be most likely to benefit by being in them. Generally speaking, they prefer being in the asylum. That must be because they find themselves more comfortable in the asylum. I think that we will all agree that we ought to put the patient where he is best, and I agree with Dr. Maudsley to this extent, that if the patient is better in a private house by all means have him there; but if not, have him in an asylum.

Dr. Sibbald.—I think we cannot lose sight of the lesson which we are taught by Gheel, that there are many patients who can be very properly placed in cottages, although there are many imperfections in the way in which Gheel is managed at present, and although there are many patients there who, I believe, none of us would approve of being there. With regard to the remarks which have been made as to the difficulty of deciding what patients are not dangerous either to themselves or others, there is, I think, no more difficulty in that than there is in deciding that a patient is dangerous to himself or others, which every medical man has to do when he signs a certificate for confining a patient in an asylum. The one question is just as easy of decision as the other. And in the public asylums, which are growing larger and larger every year, there can be very little doubt, I think, that there is a large number of cases which, if they were not in asylums at the present time, would not now be placed in asylums; but from the fact that they are in asylums at present the superintendent does not like to take the responsibility of saying, "This case may be put out." He says, "Keep them in." I think if some means could be adopted whereby these patients might be experimented upon—as is the case to a considerable extent in Scotland at present—such a course would be productive of good both to the patients and to the country generally.

Dr. Arlidge.—The great question of the day is what to do with the lunatics. They keep growing on our hands. They grow by accumulation in every asylum, especially pauper lunatics, and therefore it becomes a grave question what we shall do with many of them. Those who belong to asylums know that a large number of the inmates are doubtful inhabitants of asylums; they have been put in many years ago, and they remain there, because they have been once placed in an asylum; and the great question of the day is, whether we shall go on constructing county asylums at an enormous expense, as heretofore, or whether we shall adopt a new scheme in providing for a certain class of pauper patients? With reference to providing for a certain class of patients, Gheel is of value in showing what might be done. We cannot commend Gheel as a model to be actually followed, but the proper course is to take out of Gheel what is valuable and adapt it to the wants of this country. Dr. Webster has properly pointed out that Gheel has been an insane colony for some hundreds of years. The whole population of that little commune has grown up acquainted with the habits of lunatics; but we have no place in England which has the seclusion of Gheel, or which

has a population adapted to take charge of lunatics. We know that in this country the great body of the population has numerous prejudices and fears in regard to lunatics, and we could not possibly intrust even the most harmless of our lunatics to them. The main importance of a discussion in reference to Gheel is that it may lead us to the discovery of what is valuable in the Gheel system and adapt it to our wants. It has occurred to me that we might in some way adapt it by relieving some of our asylums of a proportion of their patients, and placing them in cottages, under the supervision of the attendant of the asylum. At the same time let these cottagers, if practicable, be old asylum attendants, or others who may take their discharge from the asylum and settle themselves in the neighbourhood. That would allow a colony gradually to grow up. The example of Gheel has been of weight on the Continent, and there is a strong tendency to reproduce Gheel in some form or other elsewhere. Dr. Webster has mentioned that the Belgian Government is about to institute another similar colony, and in France there is a great disposition to imitate it. In France we have experiments going on, showing what can be done in the way of dealing in cottages on detached farms with lunatics for whom accommodation used to be provided in asylums. Remarks have been made as to the proportion of cures. As Dr. Monro rightly says, if you exclude all epileptics and general paralytics, 30½ is certainly a small per-centage. During the time I was superintendent of St. Luke's Hospital we exceeded 70 per cent. of cures.

Dr. Monro.—And it was 68 per cent. for many years running.

Dr. Arlidge.—If you read the reports of the American asylums they will tell you that they can cure 90 per cent.; but that is partly accounted for by their receiving cases of delirium tremens, and turning them out cured, so that we cannot compare their cases with our own. As to curable cases, I think there is a great defect in Gheel in not making special provision for curable cases. Boarding out is not so well adapted for cases of recent occurrence. These cases ought to be brought to an infirmary in the town, and that plan is to be carried out.

Dr. Webster.—It is being carried out.

Dr. Arlidge.—The restraint that exists at Gheel is of small moment indeed. We must remember that on the Continent medical men have strong prejudices in favour of using restraint. Those men who put on hobbles would say—"It is much better to allow these men to walk about in hobbles than to shut them up within the walls of an asylum." Now, I do not advocate restraint; but there is a measure of truth in that view, and it must not be lost sight of. If there is restraint at Gheel you must put it down to the habits of thought of medical men on the Continent. If medical men were transplanted from England to Gheel, I dare say they could see how to do away with the hobbles and with all restraint.

This closed the discussion.

Owing to the lateness of the hour, the other papers on the programme were held as read.

Dr. Tuke.—I beg to move that we tender our best thanks to the Royal Society of Edinburgh for the use of this hall.

The President.—May I suggest that our thanks should likewise be tendered to the Royal College of Physicians, who offered their Library for our meetings.

The motions were unanimously adopted.

On the motion of Dr. Monro, the following gentlemen were appointed as a committee for promoting a memorial to Dr. Conolly:—The President and council, and the past Presidents, with power to add to their number.

Dr. Tuke.—I beg to move a vote of thanks to our esteemed President, who has presided over this long *sederunt* with so much kindness and courtesy,

and who has given up so much time in attending to the private affairs of this Society.

Dr. Webster seconded the motion, which was carried by acclamation. The proceedings then terminated.

ANNUAL DINNER.—The annual dinner was held in the evening, at the Douglas Hotel, St. Andrew's Square. There was a large attendance, and the quality and style of the dinner and wines were of the very best. Among the guests of the evening were:—Sir J. D. Wauchope, Bart., Chairman of the Scotch Lunacy Board; Sir James Y. Simpson, Bart., M.D.; Dr. Seller; the President of the College of Surgeons; the President of the College of Physicians; Dr. Russell Reynolds; Dr. Gillespie; Dr. Argyll Robertson; Dr. Webster; Dr. Butler (U.S.); Dr. E. C. Robertson; Rev. H. M. Robertson. Sir James Coxe was also present in his right as a Member of the Association.

In consequence of the very severe and serious illness of Professor Laycock, the Medico-Psychological Class connected with the University of Edinburgh was conducted, for the greater part of the Summer Session, by Commissioner Browne. By a happy coincidence the course was concluded and the prizes awarded upon the eve of the meeting of the Medico-Psychological Society, so that a number of its members and nearly all its officers were enabled to be present.

After a Lecture on "Hereditary Tendency to Mental Disease" had been delivered, and strong commendation bestowed upon the diligence and interest displayed by the class—amounting, we understand, to about thirty—and upon the ability and industry of those who had especially distinguished themselves, as attested by Drs. Seller and W. Robertson, assessors to the University, to whom the competitive clinical papers, essays, &c., had been submitted, the prizes were delivered by Sir John Don Wauchope, Bart., Chairman of the Board of Lunacy, Commissioner Sir James Coxe, Professor Balfour, &c.

Sir J. D. Wauchope, in presenting the prizes, expressed the satisfaction which he experienced in being present on this occasion; his desire to encourage such means of instruction in the study of mental disease as were afforded by this class; and his conviction that holding the position which he did he was performing a public duty in sanctioning all efforts to diffuse knowledge which was calculated to diminish the numbers of the insane and to ameliorate their condition.

The members of the class were then invited to attend the meeting of the Association on the following day; a privilege of which they availed themselves.

PRIZE LIST.

CLASS OF MEDICAL PSYCHOLOGY AND MENTAL DISEASES.

For Excellence in Clinical Examination (Dr. Gilchrist's Prize).

1. CARLO MALAN.

For Excellence in Written Examinations (University Medal and Dr. Browne's Prize).

1. JOHN MACBETH.

Best Essay on "Le Pitit Mal" (additional Prize from Dr. Browne).

1. THOMAS LAUDER BRUNTON.

For Excellence in both Clinical and Written Examinations
(Certificates of Honour).

1. JOHN MACBETH.
2. CARLO MALAN.
3. THOMAS LAUDER BRUNTON.
4. WILLIAM J. WILLIAMS.
5. WILLIAM MUNRO.
6. ALEXANDER R. HAUGHBY.

T. LAYCOCK.

The Honorary Secretary has received the following letters, which he desires to communicate to the members of the Association.

"1, HARRINGTON SQUARE, LONDON, N.W. ;
"19th July, 1865.

"MY DEAR SIR,—I beg to acknowledge the honour conferred on me by the Medico-Psychological Association, in electing me one of their honorary members; and if at any time it should be in my power to forward the interests of the Society I shall be pleased to avail myself of the opportunity.

"Accept my best thanks for your kind personal expression of good-will.

"Believe me, yours faithfully,
"W. H. WYATT."

"DR. TUKE."

"2, SAVILE ROW, BURLINGTON GARDENS ;
"28th September, 1865.

"DEAR SIR,—On arriving from Italy a few days ago I had the honour of receiving your esteemed communication of the 12th inst., informing me that the Medico-Psychological Association had conferred on me the distinction of an honorary membership; I feel, I assure you, very proud of this honour, and beg you will take the first opportunity of conveying to your Association my warmest thanks for their kindness.

"It is a great satisfaction to me to find my very humble efforts to ameliorate the condition of the insane approved of by such a body as yours, and will be an encouragement to me to do all I can to forward the noble and humane objects of the Association. I have just been visiting some of the Continental asylums, with a view of obtaining additional information to assist me in forming some legislative measures relative to public lunatic asylums next session.

"I beg you will accept for yourself my best thanks for the kind courtesy with which you conveyed the resolution of the Association to me.

"I remain, dear Sir,
"Yours very truly,
"JOHN A. BLAKE."

"HARRINGTON TUKE, Esq., M.D."

"STABILIMENTO SANITARIO IN MILANO PRESSO ST. CELSO ;
14th February, 1866.

"MOST HONORABLE SIR,—I am very sensible to the honour that the eminent Medico-Psychological Association of England has done to name me between their honorary members. Whilst I tried, as I could, to demonstrate to my countrymen the elevated scientific merits of the honorable English

alienist physicians, I have, too, experienced their great kindness and goodness for me.

"I beg you, Sir, with all my thanks, to tell my feelings to the eminent Association of which you are the noble general secretary.

"Heartily and respectfully,

"Your most obedient servant,

"DR. BIFFI."

"VIENNA; 18th February, 1866.

"DEAR SIR,—By your letter of January 1st, which I have received on the 10th instant, you kindly informed me that the last meeting held at the Royal College of Physicians did me the honour to select me an honorary member of the Medico-Psychological Association.

"I am desirous of expressing my grateful sense and high appreciation of this honour, and pray have the kindness to transmit my sentiment of warmest gratitude to the Association.

"I am, Sir, truly yours,

"DR. L. SCHLAGER,

"Professor of *Psychiatrie* at the University of Vienna."

"GHEEL, le 22 Février, 1866.

"MONSIEUR ET TRÈS-HONORÉ CONFRÈRES, — J'ai l'honneur de vous accuser réception de la lettre par laquelle vous m'annoncez mon agrégation comme membre honoraire de l'Association Médico-Psychologique de Londres.

"Cette marque de haute distinction m'honore et m'encouragera dans l'accomplissement de la mission humanitaire qui m'est dévolue. Par mon dévouement, je tacherai toujours de me rendre digne de votre savante et philanthropique Association.

"Monsieur, et très-honoré Confrères, veuillez à ce sujet agréer personnellement et exprimer à vos estimables collègues mes sincères remerciements. Veuillez croire à la parfaite estime et à la haute considération, etc.

"Votre dévoué Confrère,

"DR. BULCKENS."

"Monsieur HARRINGTON TUKE,

"Docteur en Médecine, etc., Londres."

The Want of Education in Physical Science.

To every man abhorrent of waste, the thought that thousands of his fellow-countrymen have received no useful training must prove a source of frequent and deep regret. It is a trite remark, that while we devote our utmost energies to the improvement of bullocks and sheep, we leave God's last and greatest work—man—too often untended and uncared for. The stimulus to improve the breed of cattle lies in the immediate gain to the owner; but the benefit to be derived from the improvement of the human race seems to lie too remote from individual interests to excite the necessary sympathy, unless exceptionally, in the breasts of philanthropists. Yet we are not an inhumane people. We spare no cost to provide hospitals, asylums, poor-houses, and jails, for the care and recovery of our less fortunate brethren; and we appoint inspectors and commissioners to watch over and report on the manner in which these establishments are conducted. So far, so well. But, in spite of all this labour, a fear, strengthened by a consideration of the

results, will nevertheless intrude that our exertions are in the main unsuccessful, and that our work of reform has been begun at the wrong end. What should we think of a railway company which, instead of doing its best to secure locomotives of the best material and most durable construction, was to accept them from the maker, however indifferent in quality, and be satisfied with fitting up a variety of workshops for their repair? No man would have any difficulty in perceiving that this procedure was at once short-sighted and ruinous. But it never seems to occur to our legislators that sickness, insanity, pauperism, and crime are far more likely to be successfully met and counteracted by measures calculated to ensure at starting a healthy mental and bodily constitution, than by endeavours to restore this condition after it has been destroyed by neglect. Every one, in the abstract, admits the value of training. A trained dog, a trained horse, a trained servant, a trained mechanic, a trained soldier, a trained physician, are all valuable in their individual capacities through their training, and their services are estimated accordingly. But the training to an art is special in its nature, and is a very different thing from that general training to which the whole population should be subjected. A man may be a good ploughman, a good watchmaker, or a good lawyer, and yet lack that knowledge which will protect him from falling into sickness, insanity, or crime. The general standard by which a man's education is estimated, is his capacity to read and write; and, accordingly, in our Parliamentary blue-books, criminals, or soldiers, or sailors, are classified as well- or ill-educated, according to this test. But a man may be able to read and write with the utmost ease, and yet be destitute of all knowledge of the simplest facts of science, and know no more of the manner in which he ought to live in order to secure his mental and bodily health than the babe which was born yesterday. Beyond a doubt, a man who can read and write is armed with a very powerful weapon for the acquisition of knowledge; but *per se* reading and writing are merely extensions of the means of communication—facilities for holding intercourse with those who are absent. To what extent they are practically useful will depend upon circumstances. One man has leisure and inclination to read; another has neither the one nor the other. To the latter, accordingly, the talent is of little use; and in neither does it constitute an exact test of knowledge. Who does not look back on his schoolboy days, and grieve over the little useful knowledge he then acquired, and wonder that a system which aimed principally at imparting a knowledge of dead languages, of superseded religions, and of the manners and customs of extinct peoples, should still successfully struggle against the general introduction of the study of living languages, of existing faiths, and of the laws and customs of modern nations? How few boys are there among those who have completed the curriculum of even our best schools, who have any knowledge of physical science and of the laws of health; who can tell why they breathe, or on what circumstances the normal performance of the function of respiration depends; who can give reasons for the necessity of ventilation; who have, in short, even the rudimental knowledge necessary for the preservation of their own health! How few are there who are acquainted with the political and social constitution of their own country, who have any clear ideas on the subjects of municipal government, church establishments, the support of the poor, or the punishment of crime! How few who know anything of the past history of the earth, and of the wonders revealed by the stones on which they tread; how few who can read the book which nature displays in the wood or in the meadow, on the mountain or on the shore! A consideration of facts like these must show to every thinking man how limited, how scanty, and how unsatisfactory must be our present system of education.

And if such be the results even among the so-called educated classes, what state of matters can we expect to find among those who have been allowed to grow up in ignorance, and too frequently in vice? Who can walk through the poorer districts of our large cities without a feeling of indescribable sadness over the wasted lives and energies of the miserable creatures he sees on every side, who are reduced to a state of degradation such as is seen in no other European country? But alarm as well as pity may well be felt, for the question cannot fail to present itself whether, with so large a mass of the population so steeped in ignorance, so deficient in moral and intellectual culture, so little acquainted with the duties and responsibilities of a loyal and a Christian people, and with so little to lose in the event of civil strife or convulsion, we are not sleeping on the brink of a volcano which, although at present in repose, may at any moment break out in a fearful and devastating eruption? From time to time we hear of endeavours to provide for the general education of the people; but opposition arises, and nothing is done because we cannot agree on the religious tenets that should be taught by the State. True, the proposal has repeatedly been made, that secular knowledge alone should be imparted at the public expense; but hitherto it has always been suppressed in a shout of horror against godless and infidel training. And so it happens that year after year nothing is done, and a population is left to grow up around us which fears not God and respects not man. Every Sunday the clergy in their pulpits pray for blessings on this corner of the Lord's vineyard, and return thanks that their lot has been cast among a loyal, a happy, and a religious people. Are they in reality proud of the condition of those portions of the Lord's vineyard which are comprised in the Cowgate and Canongate of Edinburgh, or the Salt Market and High Street of Glasgow? Do they ever ask themselves how many heathens are living in this Christian land—not the quiet, respectable heathen of a pagan country, but the neglected outcasts of our boasted civilisation? Shall this state of matters be allowed to continue until some fearful convulsion shall shake the foundations of society and expose the rottenness of our social fabric, even as we have seen the rottenness of the social and military system of Austria brought to light? Wherein lies the secret of the success of Prussia in the recent contest? In the needle-gun? Yes, to a certain extent; but the needle-gun, be it remembered, was placed in the hands of educated and intelligent men, whose triumph was the triumph of knowledge, and of the loyalty and national spirit which knowledge imparts. That national spirit exists among us, the volunteer movement has sufficiently proved; but this movement has not reached, and cannot reach, the lowest strata of the people. In Prussia, education is compulsory. Every man is brought under its influence; and herein lies a mighty instrument for imparting national sentiment and national virtue, and a power of co-operation in circumstances of difficulty and danger. In the Northern States of America we have recently seen an equal exhibition of national power springing from similar sources; and we have all heard how strongly national sentiment, although too often exclusive and bigoted, is fostered in these States by the lessons of the school.

Every man in the narrow sphere of his business and of his home can appreciate the value of education and training in his assistants and his servants. Skilled labour everywhere commands a higher price than that which is unskilled. The trained man is more valuable than the untrained, and an educated people must thus necessarily be possessed of sources of wealth and power and strength far beyond those of a people who is untrained and ignorant. Every year immense sums are spent in improving our ships and our guns, which are merely the inanimate instruments of our defence, and will certainly fail us in the hour of need, unless used with judgment,

zeal, and loyalty. But what caring can a man who has been drafted into the army from the back slums of Edinburgh, Glasgow, or Aberdeen, be expected to have in the honour and interests of his country? The chances are that he was driven to enlist to save himself from starvation, which stared him in the face through want of education, vice, or intellectual deficiency. When a man is fit for nothing else, he is still considered good enough to defend his country's honour. He may, indeed, fill a pit as well as another; but a soldier, even of the kind we have, is too costly an article to be expended in this fashion. Besides, we do not want him to fill a pit himself, but, if need be, to fill pits with the bodies of the enemy.—*The Scotsman*, September 15th.

The Medico-Psychological Association.

Definition is dangerous, and never more so than when it seeks to ensnare Psyche in its net. From the dawn of speculation to the present day, the intelligence of mankind has been continually prying into the laws of its own processes, and into the relation of these with the physical organism, through which alone it becomes cognisant of them. In proportion, however, as speculation has grown scientific, it has desisted from seeking its object by what Coleridge called "the high *priori* road," and any progress it has made towards the solution of its inquiries has been effected on the narrow and humble pathway of inductive research.

Hitherto psychological investigation has had mainly a speculative interest; and considering the method which it pursued, it could scarcely have had any deeper one. Now, however, by the almost unanimous consent of its votaries, it has been content to range itself among the inductive sciences; and, as a reward for this condescension, it has received a large reinforcement of followers, who have given it a much more practical, not to say human, interest. The psychologist no longer sneers at the low and grovelling pursuits of the physiologist. The physiologist no longer turns away in contempt from the purblind gropings of the psychologist. They have united their forces in an offensive and defensive alliance for the attainment of a common end.

"Alterius sic
Altera poscit opem res et conjurat amice."

At no former meeting of the Medico-Psychological Association has this fusion of the two sciences been more distinctly recognised than at the recent one in Edinburgh, presided over with such ability by Dr. Browne. Medico-psychology now claims a definite place among the inductive sciences, and if asked to show its credentials it points to the field which it cultivates, to the method by which it proceeds, and to the results which it has already achieved. The field is surely a sufficiently palpable one, and by no means likely in these days to have its area diminished. The very fact that, in spite of the much more normal mode of life pursued by the great body of the public, the phenomena of lunacy have betrayed no tendency to decrease, is enough to prove that there are forces working through our modern civilisation which are directly injurious to mental health. The annual reports of Her Majesty's Commissioners in Lunacy for England, Scotland, and Ireland furnish a direct answer to all who would question the significance of the medico-psychologist's department.

Again, the method by which the medico-psychologist proceeds is one with which the most rigid votary of science has, now at least, no right to quarrel.

True, the time is not very far distant when the subject was treated in a style which could only irritate the inductive inquirer. Crude theories of psychology, theories not less crude of physiology, were freely accepted and made the groundwork of the most confident generalisations. A treatise on lunacy was almost invariably a portentous cross-birth between bad metaphysics and premature physiology. The subject which, from the obscurity and almost evanescent fineness of its phenomena, required a rigidly accurate and consistent use of terms, was handled in the most loose and declamatory style. Where a calm and clear exposition was wanted, the reader was generally entertained with the inflated discourse of a little Bethel revivalist. Now, however, such contributions to the literature of medico-psychology are no longer tolerated, and a more rational, intelligible, not to say honest, method of treating the subject is adopted. We are mainly indebted to Continental writers for the happy change, and Germany has, according to her wont, supplied us with the most original and really valuable additions to the medico-psychologist's library.

Not that we have had no able and effective workers in the same field at home. The late Dr. Prichard, so justly held in honour by the profession for his high attainments in philology and in all that pertains to the history and development of mankind, was one of these. The late Dr. Conolly was another—an enlightened physician whom Dr. Browne claims, in eloquent language, as “a philosophical advocate of medico-psychology founded upon induction.” The late Sir Benjamin Brodie was yet another; while the names of living cultivators of the same difficult field will at once suggest themselves to our readers. The journalism of medical psychology is fairly entitled, for its ability, for its originality, and for the scientific value of its contributions, to rank with the journalism of any other department of medicine. Nay, in the very city where the last meeting of the Association was held—a city which justly boasts of having founded a distinct school of philosophy—a lectureship of medical psychology has been instituted under the enlightened auspices of Professor Laycock, and, with the congenial assistance of Sir James Coxé and of Dr. Browne himself, has already done much to bring the philosophical studies of the place into harmonious relation with those of the purely medical curriculum. Much as has been done for the more accurate investigation of the phenomena of lunacy, we are entitled to expect a great deal more; and the science of medico-psychology will have nothing to fear if tested by the standard adopted by Mr. Lowe for Government schools—“results.”

Even at present the medico-psychologist can appeal with justice to much valuable service done in the treatment of mental disease. If asked for specimens of successful labourers in his peculiar field, Dr. Browne might well have pointed to his numerous audience and said, “*Circumspice!*” There was never a time when so many accomplished physicians made it the business of their lives to investigate and treat the phenomena of lunacy; and who will say that the labours of all these men have been without result? From the treatment of the imbecile and idiotic at such asylums as Earlswood, and Larbert in Scotland, to the treatment of even such apparently hopeless manifestations of mental disease as chronic mania and general paralysis, medico-psychology can point, in the language of Bacon, to many an *instantia prærogativa* which may well sustain her votaries in the prosecution of their beneficent work. Certainly it would be a hard dispensation for the followers of any science if success refused to crown exertions carried on in the spirit, at once scientific and philanthropic, of such physicians as Prichard and Conolly.—*The Lancet*, August 15th.

*Recent Contributions to Mental Philosophy.**

What is the original meaning of *salad* or *salade*? In the oldest use of the word it means a kind of helmet-cap worn by soldiers, both in French and Norman-English. We venture, though not without hesitation,—especially remembering that some derive it from *salted*,—a surmise that the mixture of herbs and dressing got its name, just as a comfortable dose before going to bed came to be called a nightcap; as a good kind of thing for the head. Be this as it may, we have before us a salad, in either sense: a mixture of various esculents, and a stiff kind of wear over the brain; not without salt either, though there might have been more. But this was not the way we came to use the word. It was our own considering-cap we thought of. Our readers know that of late years we have been obliged to put books of mental philosophy together in a heap, and make one job of them: how can we do otherwise when the nature of things, in its totality, is presented to us for consideration once a fortnight? On the present occasion, when we saw that we had a budget ready, there came into our minds, in a whimsical way, two lines of the satire on Wolsey—

“Aryse up, Jacke, and putt on thy salatt,
For the tyme is come of bagge and walatt.”

And so we were reminded to ask for the connection between the two meanings of *salad*, and to refer the question to the Philological Society.

We are by no means sorry that mental philosophy is exciting so much attention; but we should be in despair if it were necessary to give a discussion every time we open a book on the subject. It is not desirable to examine the works whenever we are asked the time of day. We pro-

* 1. ‘Spiritual Philosophy: founded on the Teaching of the late Samuel Taylor Coleridge. By the late Joseph Henry Green. Edited, with a Memoir, by John Simon. (Macmillan and Co.)

2. ‘An Examination of J. S. Mill’s Philosophy, being a Defence of Fundamental Truth. By James M’Cosh, LL.D. (Macmillan and Co.)

3. ‘Mill and Carlyle: an Examination of Mr. J. S. Mill’s Doctrine of Causation in relation to Moral Freedom. With an occasional Discourse on Sauerteig, by Smelfungus.’ By P. P. Alexander, A.M. (Edinburgh, Nimmo.)

4. ‘Three Essays on Philosophical Subjects.’ By T. Shedden, M.A. (Longmans and Co.)

5. ‘The Battle of the Two Philosophies.’ By an Enquirer. (Longmans and Co.)

6. ‘The Philosophy of the Unconditioned.’ By Alexander Robertson. (Longmans and Co.)

7. ‘An Essay on the Platonic Idea.’ By Thomas Maguire, A.M. (Longmans and Co.)

8. ‘The Harmonies of Nature, or the Unity of Creation.’ By Dr. G. Hartwig. (Longmans and Co.)

9. ‘The Philosophy of Ethics: an Analytical Essay.’ By S. S. Laurie. (Edinburgh, Edmonston and Douglas.)

10. ‘E pur si muove.’ By N. A. Nicholson, M.A. (Trübner and Co.)

11. ‘A Manual of Human Culture.’ By M. A. Garvey. (Bell and Daldy.)

12. ‘Odd Bricks from a Tumble-down Private Building.’ By a Retired Constructor. (Newby.)

13. ‘Discourses.’ By [the late] Alexander J. Scott, M.A. (Macmillan and Co.)

ceed to a short notice of the several writings before us, which will be of more use to our readers than any detached reviews.

1. Joseph Henry Green, so well known as a surgeon, died December, 1863, as his biographer ought to have told us, but forgot it. It is not very widely known that he was all his life a diligent student of philosophy, a pupil of Tieck, the intimate friend of Coleridge, whose literary executor he was. The posthumous works which have appeared under Green's editorship have been very little thought of in connection with their editor. The present work is not Coleridge, but Green founded on Coleridge. Its subdivisions are, "On the Intellectual Faculties," "On First Principles in Philosophy," "On the Truths of Religion," "On the Idea of Christianity in relation to Controversial Theology." The reading will repay those who have a strong appetite for such subjects; and it will give information, of a general kind, to those who want to know something of Coleridge, subject to the difficulty of separation incident to the writings of teachers who found their own instructions upon those of the master. With those who come between these two classes, we do not think these volumes will find much acceptance; in fact, Green is not Coleridge.

2. Dr. M'Cosh's work involves no fewer than nine points: the nature of things, Hamilton, J. S. Mill, the relations of each to the other, Dr. M'Cosh's relation to either, and Dr. M'Cosh's relation to the way in which either looks at the other. In this subject nothing but a very long article would allow us to go into detail. Though, by title, we should suppose that only Mill is examined, yet this is far too brief a description of the work. There are twenty-one chapters, running through as much difference of matter as could be brought in under the general subject. Dr. M'Cosh holds his ground fairly, and will be useful to all readers of the psychology of the day. In such points as his attack on Mr. Mill's notion of intuition and necessity, he will have the voice of mankind with him; in things which are more like matters of opinion, there are many who will find him useful in attaining perception of the point at issue. In the matter of Hamilton and his impugnors and defenders, we shall soon want a digested index, if we are to avoid utter confusion. Dr. M'Cosh has given two pages of reference to the places of his own writings which concern the matter; and it may fairly be said that these are two of his most useful pages.

3. We shall not enter on freedom and necessity. Mr. Alexander writes in a style of a "little vivacity of expression," for which he apologises: this so far as Mr. Mill is concerned. If the reader should ask which are the vivacities, he will get from us no other answer except that given to the little boy who asked which was Wellington in the peep-show—"Whichever you please, my little fellow! You pays your money and you takes your choice." As to the article on Mr. Carlyle, there is internal evidence that it was intended for wit from beginning to end. The author "entirely honours" Carlyle, and considers him "simply our greatest man of letters living." Accordingly, he invests him with the name of *Sauerteig*, which the German dictionary makes to be *sour dough*, and gives him more than forty pages, of which the following is a specimen:—"Sauerteig indeed, nothing doubting, girt with his cook-aprons, infinitely manipulating with his hero-gridirons, and due 'inimitable sauce piquante,' cooks busily, with vigour even unusual in him. 'Right stuff of properest hero-porkhood here,' iterates the singular Sauerteig-Soyer, cooking" Surely this must be wit!

4. Mr. Shedden's three essays are on the Infinite, on Arabic Peripateticism, and on the controversy between Mr. Mill and the school of

Hamilton. In the third he ranges himself rather on the side of Mill, but not wholly. In his last sentence he expresses, but in other words, that he has much more agreement with Mr. Mill than with Hamilton, except as to the value of formal logic, which he holds Mr. Mill grievously to underrate.

5. The inquirer into the battle of the two philosophies takes the other side: he assails Mill and defends Hamilton on various points. With a bias which is not uncommon,—that of having a grand field of opponents,—he informs us, that while Mill's work against Hamilton was "hot from the press, it was pronounced by the writing public to be a complete success." We really were not aware of this. There are individuals who will decide between two such opponents at a glance; but they are neither the whole writing public nor the whole reading public.

6. Mr. Robertson's philosophy of the unconditioned is strong *à priori* theism: the existence of God is to be finally reduced to a logical axiom. He attacks both Hamilton and Mill, and criticises many others. There is a great deal of vagarious thought, in less than a hundred pages.

7. Mr. Maguire informs us that his essay is the result of an independent study of Plato; and of this there is good appearance. His first "conviction that mental science was not mere verbiage," was derived from the chapter on Socrates in Grote's history: and his essay was complete before Grote's 'Plato' appeared; on this his criticisms, &c., are added in notes. Plato, under nine heads, in one hundred and fifty pages, is of a concentration which we cannot separate; but many readers who have the first smattering will find this short treatise both enlarge and bind their knowledge.

8. Dr. Hartwig's book at first looks like a system of natural history: it swarms with woodcuts of zoology and comparative anatomy. But it properly belongs to general psychology: for its object is comparison and deduction, and a view of the chain of being, which, in a rough way, may be described, like a rod and line, as having a fly at one end and a fool at the other. After some general cosmogony, this book begins at the lowest phases of vegetable life and ends with man. How little the collection of harmonies can pretend to be a system of zoology is manifest from the very small space taken up by the mammals when compared with that given to low creatures with hard names. One great object seems to be to illustrate the way in which all living things are the destroyers of their inferiors and the destroyed of their superiors. This is carried the length of saying that it is the "business" of the Deirodon snake to restrain the undue increase of the smaller birds by devouring their eggs. It is just as much the business of the smaller birds to produce eggs enough, over and above what are wanted for hatching, to nourish the Deirodon family. There is one great omission. When man is arrived at, it is not pointed out that, for want of a higher race to destroy him, he is furnished with a wish to do the job for his fellow-creatures, and with inventive power to find out means. A treatise on weapons of all kinds, from the club to the needle-gun, would have been the proper ending. There should have been a double frontispiece: on one side a Deirodon robbing a nest; on the other two high-minded gentlemen snapping pistols at one another for their mutual satisfaction; and both performing the function assigned to them in the order of things, as seen from the standpoint of a naturalist. This book is very interesting, and fills a very useful place.

9. Mr. Laurie's system of ethics places first manifestation of the moral sense in a feeling of being pleased or displeased (complacence or displacement), and, denying that right is discriminated by a special inner

sense, finds all the rest in promotion of "felicity," either that of the agent himself or of others. There is power of analysis shown in this work: all other judgment we leave to the reader.

10. What is it that moves? This the author does not explain, and we cannot find out. There are chapters on Truth, Experience, Space, Time, &c. We do not think much of them. The author desires for his jury those who think calmly and examine closely: we doubt if they would need to retire. We cannot approve of the division of the cardinal virtue, justice, into justice towards one's own self, and justice towards other people: it is a perversion of terms quite parallel with the division of murder into suicide and slaughter of others. We hardly know whether the author is in joke or in earnest when he reconciles freewill and foreknowledge by the hypothesis that God foresees what he pleases, and does not choose to foresee the acts of his creatures. The old chapter from Volney, the meeting of the religions, to prove that there can be no revelation because men advance and defend opposite revelations in much the same way, is really behind the age. Most opponents of revelation would now say, each for himself, Well! I know I do not believe; but I trust I know a better defence of my unbelief than that comes to! The only chapter of which we can almost unreservedly approve is that on Space. There is in it a little reiteration, but no fallacy. It consists of four pages, no one of which contains anything but the head-line and the number of the page. Some more of the paper might have been advantageously treated in the same way.

11. Mr. Garvey's work begins, as a barrister's work will often begin, with a sound and sufficient table of contents. It goes through a large number of points connected with the education of the reason and of the feelings, and abounds in just remarks. At the end of each chapter is a supplement, headed "Practical," containing suggestions of books to read or courses to take. The whole is rather too much spun out: condensation is wanted. But those who make education a study should consult this book.

12. The odd bricks are piled into as much of system as is seen in some of the buildings. They are in dialogue, brought out by a loan of Mill upon Hamilton.

13. The late Alexander Scott—it will set him up with many to say that he was a bosom friend of Julius Hare—was a man of remarkable life, thoughts, and words. When he used to deliver Sunday evening discourses at we forget what institution, he collected around him a small audience who thought his sermons—so to call them—among the most remarkable things of the day. In the work before us the greater part has been printed before; but some discourses appear for the first time.

Having thus looked through a considerable number of psychological essays, a thought comes into our minds which has intruded itself on former occasions. It is this: Do our writers mean the same things by the same words? Certainly, it will be answered, in some cases at least; for they explain their words in exactly the same way. We know they do, is our reply: but *Quis custodiet ipsos custodes?* Do the words in which they explain carry the same sense in all the minds? On this point we crave leave to doubt; but we by no means despair of a final settlement. Once more, to authors of all amounts of knowledge, and of all grades of reputation, we recommend curtailment of prolixity. We suspect that the streams of words which go to very fundamental points indicate that the writers have no very brief enunciation which *themselves would understand*; that is, that their fundamental words are not well settled in their own minds.—*The Athenæum*, July 28.

*Visions of Heaven and Hell.**

From the time when these words were written, in the 32nd chapter of Deuteronomy, "a fire is kindled in mine anger, and shall burn unto the lowest hell," the human mind has exercised itself, not unnaturally, in endeavours to penetrate the mystery. They are words which refer to a temporal punishment, but they also mention a locality which is not further defined. Men have variously speculated as to the whereabouts of that dread place; and after ages of vain speculation, the 'Catechism of the Diocese of Bruges' has definitely settled the dispute, as may be seen in the reply to the query, "Where is Hell?"—namely, "Hell is situated at the centre of the earth, and is exactly fifteen hundred leagues from this place." Before this Catechism, however, was compiled, the Jesuit Hardouin had detected the position, though he had not made out the distance; but he did something more,—he declared that the rotary motion of the earth was caused by the efforts of the damned to escape from Hell by climbing up the inward crust of the globe. As squirrels set their cylindrical cages spinning, so the condemned souls keep the world moving!

Cruel humanity has chosen, from various motives, to make a revelation of that which more merciful divinity has shrouded in terrible mystery. The Hindoo priests describe twenty-one hells. In Scandinavia, where fire was a luxury, the priesthood despatched sinners to a hell of frosts. In Thibet, where heat and cold alternate, the faithful were taught that punishment for errors would be carried out in a hell of sixteen circles, in eight of which they would be roasted in one half the year, and in the other eight frozen during the remaining six months!

Some of the worthiest of men have dishonoured Divine mercy by their savage and reckless assertions on this most awful subject. "What," asked a sincere inquirer of St. Augustine—"What was God doing before he created the world?"—"He was making Hell!" was the blasphemous reply of the mistaken saint. How much more to the honour and glory of God was the Talmudist reply to the same question,—namely, "He was creating repentance!"

St. Augustine would not have it so, and most of the Fathers were of his opinion,—that sinners suffered eternal physical pains; that they burned for ever and were never consumed; that they became saturated with fire, and always with increase of torment! St. Thomas Aquinas, good man as he was, went even further than St. Augustine. He believed that one of the chief joys of the blessed would be in contemplating the tortures of the damned! Berridge, unwilling to allow a gleam of hope that Divine vindictiveness could pause for a moment in its exercise, assures his readers, in the 'Christian World Unmasked,' that "the shortest punishment is eternal, and the coldest place in Hell will prove a hot one!"

On the other hand, worthy men, whom the unco-righteous take for heretics in this matter, have asserted opinions more consonant with the spirit of Mercy. The Rabbins could not comprehend eternal punishment; the utmost they allowed was that at the last day the sun would

* 'The Book of Visions; or Heaven and Hell described by those who have seen them'—['Le Livre des Visions; ou, l'Enfer et le Ciel décrits par ceux qui les ont vus.' Par Octave Delepierre]. (Trübner and Co.)

burn up, once and for all, those who had sinned, and warm into eternal happiness those who had merited salvation. Origen disbelieved the local part of the subject, and held that Hell was in the fire of God's anger which lit up man's remorse. Eternal punishment he vehemently denied; and to this day it is matter of dispute whether this kindly-natured man is, or is not, undergoing what he denied as being possible. But Duns Scotus professed the same sentiments, on this one point, as Origen; yet he has not been assailed for it. In later days M. Delepiere, all Calvinist as he was, denounced the idea which the sterner Calvin most cherished, that of the Divine anger never being appeased, inasmuch as that they who had incurred it never ceased to endure extreme torture. The beauty of mercy and the glory of Heaven were much better comprehended by Origen and others, who believed that the divine glory and mercy would be made manifest at last, by restoring to their vacant seats in Heaven even those angels who had fallen from them through their rebellion.

This subject, in short, took such possession of the minds of men, that they passed from ideas to sensations, and these minds being more or less diseased, when the body was stricken by epilepsy or buried in an unnaturally profound sleep, hurried abroad, like the soul of Hermotimus, plunged into Hell, scaled Heaven, and came back to Earth to pour into the ears of greedy listeners all their terrible or joyous experiences.

These visions form the staple of the very singular volumes which M. Delepiere has contributed to mystical literature. There exist numerous accounts of the secrets and secret places in Heaven and Hell, invented by writers skilled in depicting imaginary horrors and delights. These M. Delepiere discards altogether, confining himself to the relations of monks and others who, having dreamed their dreams, accepted them as realities, and perhaps exaggerated and poetized what their active brains had been deluded to believe.

In studying these remarkable records it is impossible to avoid the conviction that priestcraft, kingcraft, and common human impulses have been concerned in the building of them up. Godefroed warned his hearers by the information that he saw in the lower regions the very men whom he least expected to find there, and others in purgatory whom Christian men had certainly assigned to hell. Charles Martel, tossed on a sea of fire for robbing the Church, is an example *in terrorem* to all princes who disregard the rights of the Church. Charlemagne, undergoing unimaginable, certainly indescribable, tortures in return for his loose gallantry in this world, is a monition to monarchs who love their neighbours' wives better than their own. Charles the Bald, after his visionary foretaste of the future, probably laughed, at least in his sleeve, as he looked in the faces of his household officers, while he told them of the diabolical anguish inflicted by demons on the dishonest predecessors of these officers. The bitter touch of an old bitter family quarrel is to be detected in this prince's vision, when he saw his own old father, Louis, in hell, sitting up to the hips in a tub of ever-boiling water! The readers of Odericus Vitalis need not be reminded how priests could keep their womenkind in order by telling them how their pastors had seen the disorderly and irregular tormented in the realm below.

The imagination runs wild riot in these visions, and the memory of the reader toils in vain to collect a thousandth part of what is imagined. We remember that souls, always retaining bodily form, are shadowless, and the eyelids fixed in, if we may so say, eternal unwinkingness. South says that some men's souls only keep their bodies from putrefaction, but beyond the barrier of the nether world soul and body suffer this process

as the least of the punishments due to them. Misers toss in coppers of molten gold, from which they are dragged by red-hot grappels to be plunged in freezing liquid lead, after which they are hardened in fire, forged into fresh shape on a red-hot anvil, whence they are taken to have bushels of gold coins poured down their throats, and these they are made to disgorge by the consequences of the rapid revolutions of a spiked wheel to which they are bound. And this for ever!—and for ever!

The most singular delight is taken by these visionaries in showing that sinners are always punished in the members whereby they have most sinned. The miser, as above. The slanderer hangs by his tongue over horrible flames, from amid which demons prod at him with their forks! Some demons are busy in converting, by hideous process, the souls of sinners into essences that are to animate beasts; while the grossest offenders of all undergo a penalty, the details of which (kept in the original rough Latin) almost induce us to believe that the visionary delights in his subject, and loves to dwell upon it. It is refreshing to get away from these peculiar offenders and their sufferings to others who suffer by a sort of *lex talionis*. M. Delepierre might have lighted some of the most lurid of his pages by showing how unskilful physicians are engaged, in *domo Diaboli*, in eternally being subjected to the most horrible cathartics and emetics. We remember that an old German idea states that all foolish mortal writers will in the next world be condemned to everlastingly setting up their own works with red-hot types, for having abused the critics in this! A more terrible penalty awaits the preachers of dull sermons, who are condemned to be for ever reading, from pages that burn their eyes out as they gaze and their fingers off as they hold them, all the bad discourses that have been preached upon earth!

"He that is hanged is accursed of God," says the lawgiver, and that decree probably gave rise to the long-preserved tradition that, as the soul of a hanged man could only escape from the body in one way, and that Satan always placed himself where he could receive it, for such soul there was neither purification nor redemption. This idea, however, suggests that for other souls in Tartarus, such merciful boons were possible.

One other feature of this remarkable work is worthy of notice, namely, that when the ladies throw themselves into the ecstatic condition they become more unbridled in imagination and expression than the men. St. Christine of Sienna, St. Theresa, St. Hildegarda, and other well-meaning women, helplessly uncontrolled as to judgment and expression, fancied themselves the true and lawful wives of the Saviour; and they narrate their visionary experiences in proof thereof in such terms as might have astonished even the persons of the not too fastidious times to whom they were uttered. In comparison with these, Engelbrecht's idea of marriage in heaven is a religious pastoral, and Swedenborg's familiarity with Moses and angels and archangels, as he met them in Cheapside, an amusing hallucination.

That Dante was acquainted with some of the earlier visions noticed in this book is more than possible; it is almost certain. They formed the materials which Genius only knows how to select, appreciate, and employ.

A more curious question is that of the condition of blood and of brain in the visionaries who pondered over these subjects, waking, till their sensations connected therewith possessed them as ideas, in sleep, when the deranged body and rudderless memory carried them into realms which no ordinary or healthy imagination can reach. Even waking spectral illusions take the form of whatever has long and entirely pos-

sessed the mind; those of the hours of uneasy sleep seize and play with those forms in wilder fancies still. Sleeping or waking, we can remember but one man whose mind protested against the vision that haunted it. M. Delepierre, indeed, says that many of the early visionaries retracted more or less of the first editions of their wondrous narratives; but Mr. White, the Assessor of the Westminster Assembly, resisted the visions. Satan (on whose works he had been long meditating) one night came to the Assessor's bedside, as the latter had just lain down, seated himself, and looked at the astounded gentleman in a way to banish sleep for a month. The Assessor rubbed his eyes, muttered "This will never do," and then, gazing full in the face of the Prince of Darkness, quietly remarked, "I'll tell thee what it is. If thou hast nothing better to do, I have! I am going to sleep." After this wholesome exercise of mind, the Assessor was never more troubled by visionary visitors. His story might well find place in a second edition of M. Delepierre's collection of narratives. But among the many singularities of what we may well call this rare book is, that the author does not contemplate a second edition, and has printed only *twenty-five copies* of that which, as we may notice, is well illustrated, and which will doubtless meet fitting audience, though, it may be, few.—*The Athenæum*, June 30.

Mr. Carlyle on the Education of the Future.

I confess it seems to me there is in it a shadow of what will one day be; will and must, unless the world is to come to a conclusion that is altogether frightful: some kind of scheme of education analogous to that; presided over by the wisest and most sacred men that can be got in the world, and watching from a distance: a training in practicality at every turn; no speech in it except speech that is to be followed by action, for that ought to be the rule as nearly as possible among men. Not very often or much, rarely rather, should a man speak at all, unless it is for the sake of something that is to be done; this spoken, let him go and do his part in it, and say no more about it.

I will only add that it is possible,—all this fine theorem of Goethe's, or something similar! Consider what we have already; and what 'difficulties' we have overcome. I should say there is nothing in the world you can conceive so difficult, *primâ facie*, as that of getting a set of men gathered together as soldiers. Rough, rude, ignorant, disobedient people; you gather them together, promise them a shilling a day; rank them up, give them very severe and sharp drill; and by bullying and drilling and compelling (the word *drilling*, if you go to the original, means 'beating,' 'steadily tormenting' to the due pitch), they do learn what it is necessary to learn; and there is your man in red coat, a trained soldier; piece of an animated machine incomparably the most potent in this world; a wonder of wonders to look at. He will go where bidden; obeys one man, will walk into the cannon's mouth for him; does punctually whatever is commanded by his general officer. And, I believe, all manner of things of this kind could be accomplished, if there were the same attention bestowed. Very many things could be regimented, organised into this mute system;—and perhaps in some of the mechanical, commercial, and manufacturing departments, some faint incipiences may be attempted before very long. For the saving of human labour, and the avoidance of human misery, the effects would be incalculable, were it set about and begun even in part.

Alas, it is painful to think how very far away it all is, any real fulfilment of such things! For I need not hide from you, young gentlemen,—and it is one of the last things I am going to tell you,—that you have got into a very troublous epoch of the world; and I don't think you will find your path in it to be smoother than ours has been, though you have many advantages which we had not. You have careers open to you, by public examinations and so on, which is a thing much to be approved of, and which we hope to see perfected more and more. All that was entirely unknown in my time, and you have many things to recognise as advantages. But you will find the ways of the world, I think, more anarchical than ever. Look where one will, revolution has come upon us. We have got into the age of revolutions. All kinds of things are coming to be subjected to fire, as it were: hotter and hotter blows the element round everything. Curious to see how, in Oxford and other places that used to seem as lying at anchor in the stream of time, regardless of all changes, they are getting into the highest humour of mutation, and all sorts of new ideas are afloat. It is evident that whatever is not inconsumable, made of *asbestos*, will have to be burnt, in this world. Nothing other will stand the heat it is getting exposed to.

And in saying that, I am but saying in other words that we are in an epoch of anarchy. Anarchy *plus* a constable! (Laughter.) There is nobody that picks one's pocket without some policeman being ready to take him up. (Renewed laughter.) But in every other point, man is becoming more and more the son, not of Cosmos, but of Chaos. He is a disobedient, discontented, reckless, and altogether waste kind of object (the commonplace man is, in these epochs); and the wiser kind of man,—the select few, of whom I hope you will be part,—has more and more to see to this, to look vigilantly forward; and will require to move with double wisdom. Will find, in short, that the crooked things he has got to pull straight in his own life all round him, wherever he may go, are manifold, and will task all his strength, however great it be.

But why should I complain of that either? For that is the thing a man is born to, in all epochs. He is born to expend every particle of strength that God Almighty has given him, in doing the work he finds he is fit for; to stand up to it to the last breath of life, and do his best. We are called upon to do that; and the reward we all get,—which we are perfectly sure of if we have merited it,—is that we have got the work done, or at least that we have tried to do the work. For that is a great blessing in itself; and I should say, there is not very much more reward than that going in this world. If the man gets meat and clothes, what matters it whether he buy those necessities with seven thousand a year, or with seven million, could that be, or with seventy pounds a year? He can get meat and clothes for that; and he will find intrinsically, if he is a wise man, wonderfully little real difference. (Laughter.)

On the whole, avoid what is called ambition; that is not a fine principle to go upon,—and it has in it all degrees of *vulgarity* if that is a consideration. "Seekest thou great things, seek them not:" I warmly second that advice of the wisest of men. Don't be ambitious; don't too much need success; be loyal and modest. Cut down the proud towering thoughts that get into you, or see that they be pure as well as high. There is a nobler ambition than the gaining of all California would be, or the getting of all the suffrages that are on the Planet just now. (Loud and prolonged cheers.)

Finally, gentlemen, I have one advice to give you, which is practically of very great importance, though a very humble one. In the midst of your zeal and ardour,—for such, I foresee, will rise high enough, in spite

of all the counsels to moderate it that I can give you,—remember the care of health. I have no doubt you have among you young souls ardently bent to consider life cheap, for the purpose of getting forward in what they are aiming at of high; but you are to consider throughout, much more than is done at present, and what it would have been a very great thing for me if I had been able to consider, that health is a thing to be attended to continually; that you are to regard that as the very highest of all temporal things for you. (Applause.) There is no kind of achievement you could make in the world that is equal to perfect health. What to it are nuggets and millions? The French financier said, "Why, is there no sleep to be sold?" Sleep was not in the market at any quotation. (Laughter and applause.)

It is a curious thing, which I remarked long ago, and have often turned in my head, that the old word for 'holy' in the Teutonic languages, *heilig*, also means 'healthy.' Thus *Heilbronn* means indifferently 'holy-well,' or 'health-well.' We have, in the Scotch too, 'hale,' and its derivatives; and, I suppose, our English word 'whole' (with a 'w'), all of one piece, without any *hole* in it, is the same word. I find that you could not get any better definition of what 'holy' really is than 'healthy.' Completely healthy; *mens sana in corpore sano*. (Applause.) A man all lucid, and in equilibrium. His intellect a clear mirror geometrically plane, brilliantly sensitive to all objects and impressions made on it, and imaging all things in their correct proportions; not twisted up into convex or concave, and distorting everything, so that he cannot see the truth of the matter without endless groping and manipulation: healthy, clear, and free, and discerning truly all round him. We never can attain that at all. In fact, the operations we have got into are destructive of it. You cannot, if you are going to do any decisive intellectual operation that will last a long while; if, for instance, you are going to write a book,—you cannot manage it (at least, I never could) without getting decidedly made ill by it: and really one nevertheless must; if it is your business, you are obliged to follow out what you are at, and to do it, if even at the expense of health. Only remember, at all times, to get back as fast as possible out of it into health; and regard that as the real equilibrium and centre of things. You should always look at the *heilig*, which means 'holy' as well as 'healthy.'

And that old etymology—what a lesson it is against certain gloomy, austere, ascetic people, who have gone about as if this world were all a dismal prison-house. It has indeed got all the ugly things in it which I have been alluding to; but there is an eternal sky over it; and the blessed sunshine, the green of prophetic spring, and rich *harvests* coming,—all this is in it, too. Piety does not mean that a man should make a sour face about things, and refuse to enjoy wisely what his Maker has given. Neither do you find it to have been so with the best sort,—with old Knox, in particular. No; if you look into Knox you will find a beautiful Scotch humour in him, as well as the grimmest and sternest truth when necessary, and a great deal of laughter. We find really some of the sunniest glimpses of things come out of Knox that I have seen in any man; for instance, in his 'History of the Reformation,'—which is a book I hope every one of you will read (Applause), a glorious old book.

On the whole, I would bid you stand up to your work, whatever it may be, and not be afraid of it; not in sorrows or contradictions to yield, but to push on towards the goal. And don't suppose that people are hostile to you or have you at ill-will, in the world. In general, you will rarely find anybody designedly doing you ill. You may feel often as if

the whole world were obstructing you, setting itself against you: but you will find that to mean only, that the world is travelling in a different way from you, and, rushing on its own path, heedlessly treads on you. That is mostly all: to you no specific ill-will;—only each has an extremely good-will to himself, which he has a right to have, and is rushing on towards his object. Keep out of literature, I should say also, as a general rule (Laughter),—though that is by-the-by. If you find many people who are hard and indifferent to you, in a world which you consider to be inhospitable and cruel, as often indeed happens to a tender-hearted, striving young creature, you will also find there are noble hearts who will look kindly on you; and their help will be precious to you beyond price. You will get good and evil as you go on, and have the success that has been appointed you.

I will wind up with a small bit of verse which is from Goethe also, and has often gone through my mind. To me, it has something of a modern psalm in it, in some measure. It is deep as the foundations, deep and high, and it is true and clear:—no clearer man, or nobler and grander intellect, has lived in the world, I believe, since Shakspeare left it. This is what the poet sings;—a kind of road-melody or marching-music of mankind:

“The Future hides in it
Gladness and sorrow;
We press still thorow,
Nought that abides in it
Daunting us,—onward.

“And solemn before us,
Veiled, the dark Portal
Goal of all mortal:—
Stars silent rest o’er us,
Graves under us silent.

“While earnest thou gazest,
Comes boding of terror,
Comes phantasm and error;
Perplexes the bravest
With doubt and misgiving.

“But heard are the Voices,
Heard are the Sages,
The Worlds and the Ages:
‘Choose well, your choice is
Brief, and yet endless.

“‘Here eyes do regard you,
In Eternity’s stillness;
Here is all fulness,
Ye brave, to reward you;
Work, and despair not.’”

Work, and despair not: *Wir heissen euch hoffen*, “We bid you be of hope!”—let that be my last word. Gentlemen, I thank you for your great patience in hearing me; and, with many most kind wishes, say Adieu for this time.—*Inaugural Address at Edinburgh, 1866.*

Publications Received, 1866.

(Continued from the 'Journal of Mental Science' for July.)

'Lunacy. Twentieth Report of the Commissioners in Lunacy to the Lord Chancellor.' (Ordered by the House of Commons to be printed, June 4th, 1866.)

'Eighth Annual Report of the General Board of Commissioners in Lunacy for Scotland.' (Presented to both Houses of Parliament by command of Her Majesty.) Edinburgh, 1866.

'Lunatic Asylums, Ireland. The Fifteenth Report of the District Criminal and Private Lunatic Asylums in Ireland.' (Presented to both Houses of Parliament by command of Her Majesty.) Dublin, 1866.

We shall review these three Official Reports in our next number (January, 1867).

'Vorträge über die Erkenntniss und Behandlung der Geistesstörungen und über das Vorgehen bei Forensischen Begutachtungen Psychischer Zustände.' Von Dr. Ludwig Schlager, Landesgerichtsarzt und K. K. a. ö. Professor der Psychiatrie an der Universität zu Wien. 1 Lieferung, Wien, 1865.

We are glad to have received the first part of Dr. Ludwig Schlager's able 'Lectures on Mental Diseases.' They are marked by a great breadth of view and a careful working out of detail.

'Shakspeare's Delineations of Insanity, Imbecility, and Suicide.' By A. O. Kellogg, M.D., Assistant Physician, State Lunatic Asylum, Utica, N.Y. New York, 1866, pp. 204.

These Essays were published in the 'American Journal of Insanity,' at various intervals between 1859 and 1864. The writer of these Essays, oddly enough, makes no mention whatever of Dr. Bucknill's papers published in the pages of this Journal (and subsequently also published on a separate form) in the 'Psychology of Shakspeare.' Yet any fair critic who read, for example, Dr. Kellogg's paper on 'Ophelia,' and then read Dr. Bucknill's, would be constrained to observe how nearly Dr. Kellogg's thoughts and views were moulded on the pattern of Dr. Bucknill's earlier and far abler Essays on the same subjects.

'A Holiday in North Uist; a Lecture delivered in the Perth District Asylum, Murthly, Nov. 17, 1865.'

"I have collected" (writes Dr. Mackintosh, addressing his patients) "a few scattered notes, made during my absence from you in summer, and strung them together by aid of recollection to form the following lecture, which consists of such general topics as might interest and amuse you, with the assistance of the accompanying specimens, coloured sketches, and drawings. I acted on the principle, specially applicable to our case, that those who have opportunities of visiting interesting places at a distance should, if possible, be mindful of those at home who, perhaps, in this respect, are placed in less favoured circumstances. You will thus have the advantage of going over the same ground in imagination, if not in reality, of seeing some things in their most pleasant aspects, and of being saved all the discomforts of travelling to and sojourning in such a land."

'The Medical Mirror,' September, 1866. (Exchange Copy.)

"The 'Journal of Mental Science' (says the Editor of the 'Medical Mirror') "is one of those medical magazines where one is sure of finding interesting and instructive matter by picked authors. Not mere hurried dissertations and scribbles on crude and visionary theories, but sound essays in cultivated and

often talented language, fill its pages, and we much regret that want of space often precludes us from making long extracts from it. The Lunatic department of Great Britain is happily managed by the magistrates of the kingdom. The salaries of the medical officers are rising and sufficient, and the special journal of this great scientific branch of the profession shows a comfortable condition by its scientific and refined literature. But what time for study and self-improvement can a jaded Poor-law doctor have? Until the poor of the kingdom are controlled by the magistrates and not by petty tradesmen, we have no hope of any measure of Reform. The Union medical men should combine together to demand their true position. Resignation or Reform should be their watch-words. The profession would not be niggardly in subscribing to a just cause like this."

'Researches on the Daily Excretion of Urea in Typhus Fever, with Remarks.'
By Keith Anderson, M.D. Edin.

(Reprint from 'Edinburgh Medical Journal.')

Clinical Inquiries into the Influence of the Nervous System and of Diathetic Tissue-Changes on the production and treatment of Dropsies.' By Thomas Laycock, M.D., &c. &c.

(Reprint from 'Edinburgh Medical Journal.')

The following Reports of County and District Asylums for the year 1865 have been received since the last notice (1866).

40. Twenty-sixth Annual Report of the Crichton Royal Institution and Southern Counties' Asylum. (Medical Superintendent, James Gilchrist, M.D.)

41. Thirteenth Annual Report of the Committee of Visitors of the Joint Lunatic Asylum at Abergavenny. (D. M. M'Cullough, M.D., Superintendent; T. Algernon Chapman, M.D., Assistant Medical Officer.)

42. Report of the Committee of Visitors of the Lunatic Asylum for the North Riding of Yorkshire. (Samuel Hill, Esq., Medical Superintendent.)

43. Report of the Sligo and Leitrim Hospital for the Insane. (John M'Munn, M.D., Medical Superintendent.)

44. First Annual Report of the Perth District Asylum, Murthly. (W. C. M'Intosh, M.D., Medical Superintendent; Edward Rutherford, M.D., Assistant Physician.)

45. Report of the Armagh District Lunatic Asylum. (Resident Physician, Robert M'Kinstrey, M.D.)

46. Report of the Cork District Lunatic Asylum. By Thomas Power, M.D., Medical Superintendent.

47. Annual Report of the Royal Edinburgh Asylum for the Insane. (Dr. Skae, Resident Physician; Dr. F. Skae and Dr. Spence, Medical Assistants.)

48. Eighteenth Annual Report of the Somerset County Pauper Lunatic Asylum. (Robert Boyd, M.D., Medical Superintendent.)

49. First Annual Report of the Inverness District Lunatic Asylum. (Medical Superintendent, Thomas Aitken, M.D.)

50. Thirty-sixth Annual Report of the Belfast District Hospital for the Insane. (Robert Stewart, M.D., Medical Superintendent.)

51. Third Annual Report of the Argyll District Asylum for the Insane (two copies). (John Sibbald, M.D., Medical Superintendent.)

52. Dorset County Lunatic Asylum. Annual Report. (T. G. Symes, Esq., Medical Superintendent.)

53. Sussex County Lunatic Asylum, Hayward's Heath. (C. L. Robertson, M.D., Medical Superintendent.)

54. Three Counties' Asylum, Arlesey. Annual Report. (W. Denne, Esq., Medical Superintendent.)

55. Medical Report of the Royal Lunatic Asylum of Aberdeen. (Robert Jamieson, M.D., Physician and Superintendent.)

56. Lunatic Hospital, The Coppice, near Nottingham. Tenth Annual Report. (W. B. Tate, Medical Superintendent.)

57. Report of the Royal Lunatic Asylum of Montrose. (Medical Superintendent, James C. Howden, M.D.)

58. The Twenty-first Report of the Committee of Visitors of the County Lunatic Asylum at Hanwell, January Quarter Sessions, 1866.

American Reports.

Sixth Annual Report of the Board of Directors and Officers of the Longview Asylum, Ohio. (O. M. Langdon, M.D., Superintendent and Physician.)

Appointments.

Browne, J. C., M.D. Edin., has been elected Medical Superintendent of the West Riding of Yorkshire Lunatic Asylum at Wakefield.

P. J. Simpson, M.R.C.S.E., L.S.A., late Resident Medical Officer of the Westminster General Dispensary, has been elected Apothecary to the Colney Hatch Asylum.

W. Watkins, J. P., M.R.C.S.E., L.S.A., has been appointed Resident Surgeon to the Lunatic Asylum and General Hospital, Berbice, British Guiana.

Stewart, Hugh Grainger, M.D., F.R.C.P., Edin., has been appointed Medical Superintendent to the Newcastle-on-Tyne Borough Lunatic Asylum.

Obituary.

The late Sir Charles Hastings, M.D., D.C.L., Oxon.

At the first General Meeting for 1866 of the British Medical Association, held at Chester, the following resolution moved by Dr. Jeaffreson, the retiring President, and seconded by Mr. Carden, of Worcester, was unanimously adopted :

"That the British Medical Association, assembled at the general meeting at Chester, desires to express its deep sorrow at the loss the Association has sustained in the death of its much-loved and highly esteemed founder, President of Council, and Treasurer, Sir Charles Hastings, who, from the period of its establishment to the present time, has, with singular courtesy and fidelity, exerted his highest powers for the promotion of the best interests of the Association; and that a copy of this resolution be forwarded by the President to the family of the late Sir Charles Hastings, with the condolence of the Association on the bereavement they have sustained."

We cordially concur in the above resolution. Sir Charles Hastings was President of the Medico-Psychological Association in 1859, and he took great interest in the advancement of Mental Psychology.

The late Right Reverend Bishop Willson.

The late Bishop Willson, of Hobart Town, an honorary member of the Medico-Psychological Association since its foundation, died at Nottingham on the 30th June last, aged 71. He was consecrated Roman Catholic Bishop of

Hobart Town in 1842. Bishop Willson was an active and energetic advocate of colonial asylum reform, and he worthily represented in Australia the opinions and teaching of this Association.

Dr. Greenup, formerly of Salisbury, for the last fourteen years Superintendent of the Parramatta (New South Wales) Lunatic Asylum, holding also the offices of Medical Adviser to the Government and Examiner of Sydney University, has been stabbed by one of the patients in the Asylum, and died in two days after much suffering. His last words were, "No one is to blame for it." He fell a victim to his humane disposition, which led him to be too trustful even of men confined in the criminal division of the Asylum.—'Sydney Morning Herald,' quoted in 'Medical Times,' Sept. 22.

Notice to Correspondents.

English books for review, pamphlets, exchange journals, &c., to be sent either by book-post to Dr. Robertson, Hayward's Heath, Sussex; or to the care of the publishers of the Journal, Messrs. Churchill and Sons, New Burlington Street. French, German, and American publications may be forwarded to Dr. Robertson, by foreign book-post, or to Messrs. Williams and Norgate, Henrietta Street, Covent Garden, to the care of their German, French, and American agents, Mr. Hartmann, Leipzig; M. Borrari, 9, Rue de St. Pères, Paris; Messrs. Westermann and Co., Broadway, New York.

Authors of Original Papers wishing *Reprints* for private circulation can have them on application to the Printer of the Journal, Mr. Adlard, Bartholomew Close, E.C., at a fixed charge of 30s. per sheet per 100 copies, including a coloured wrapper and title-page.

The copies of *The Journal of Mental Science* are regularly sent *by Book post (prepaid)* to the ordinary Members of the Association, and to our Home and Foreign Correspondents, and we shall be glad to be informed of any irregularity in their receipt or overcharge in the Postage.

The following *EXCHANGE JOURNALS* have been regularly received since our last publication:

The *Annales Médico-Psychologiques*; the *Zeitschrift für Psychiatrie*; the *Correspondenz Blatt der deutschen Gesellschaft für Psychiatrie*; *Archiv für Psychiatrie*; the *Irren Freund*; *Journal de Médecine Mentale*; *Archivio Italiano per le Malattie Nervose e per le Alienazioni Mentali*; *Medicinische Ahrenlese*; *Medizinische Jahrbücher* (*Zeitschrift der K. K. Gesellschaft der Aerzte in Wien*); the *Edinburgh Medical Journal*; the *American Journal of Insanity*; the *British and Foreign Medico-Chirurgical Review*; the *Dublin Quarterly Journal*; the *Medical Mirror*; the *Social Science Review*; the *Ophthalmic Review*—a *Quarterly Journal of Ophthalmic Surgery and Science*; the *British Medical Journal*; the *Medical Circular*; and the *Journal of the Society of Arts*; also the *Morningside Mirror*; the *York Star and Excelsior*; the *Murray Royal Institution Literary Gazette*.

We are compelled to defer to our next number the publication of the third and fourth papers read at the Annual Meeting of the Medico-Psychological Association, viz.:

"The Pathology of Aphasia." By Alexander Robertson, M.D.

"Asylum Architecture" (with plans). By C. Lockhart Robertson, M.D.

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PART I.—ORIGINAL ARTICLES.

Pavilion Asylums. (With a Ground-plan). By C. LOCKHART ROBERTSON, M.D. Cantab., President-Elect of the Medico-Psychological Association.

(*Read at the Annual Meeting of the Medico-Psychological Association, held in Edinburgh, July 31st, 1866.*)

"The essential feature of the pavilion construction is that of breaking up hospitals of any size into a number of separate detached parts, having a common administration, but nothing else in common."—*Notes on Hospitals, by Florence Nightingale.*

MR. PRESIDENT,—I wish to-day to call the attention of the MEDICO-PSYCHOLOGICAL ASSOCIATION to an adaptation of the system of hospital architecture termed the PAVILION SYSTEM in the construction of PUBLIC ASYLUMS FOR THE INSANE.

The question of hospital construction has of late years received much attention. In the Journal of this Association for October, 1864, I brought to your notice several recent important publications relating to it.* Since that date the discussions in the press on the

* *Hospital Construction and Management.*—1. 'Notes on Hospitals.' By Florence Nightingale. Third edition, enlarged, and for the most part rewritten. Longmans, 1863, pp. 176. (With numerous plans.)—2. 'Rapport sur les Hôpitaux Civils de la Ville de Londres, au point de vue de la comparaison de ces établissements avec les Hôpitaux de la Ville de Paris.' Par M. Blondel, Inspecteur principal, et M. L. Ser, Ingénieur de l'administration de l'assistance publique. Paris, 1862, pp. 238.—3. 'Etude sur les Hôpitaux considérés sous le rapport de leur construction, de la distribution de leur bâtiments, de l'ameublement, de l'hygiène et du service des salles de malades.' Par M. Armand Husson, Directeur de l'administration générale de l'assistance publique. Paris, 1862, pp. 607. (With numerous plans.)—*Journal of Mental Science*, October, 1864.

condition of the infirmaries belonging to the London workhouses has further tended to direct attention to this important question.

It would be difficult to overrate the extent of the reform in hospital construction and management which has resulted from Miss Nightingale's labours. Her work, 'Notes on Hospitals,' enunciates in her clear simple style, alike the past deficiencies and future steps of progress in hospital construction and management.

To-day I am limited to one such point, viz., THE APPLICATION OF THE PAVILION SYSTEM OF HOSPITAL CONSTRUCTION IN THE BUILDING OF PUBLIC ASYLUMS FOR THE INSANE.

The recent improvements in our views of hospital construction, by the introduction of the PAVILION SYSTEM, marks, indeed, a new era in the history of hospital architecture. I question much if any hospital will ever again be built except on this principle.*

The first large hospital built in the pavilion style was the *Hôpital de Lariboisière*, in Paris, which has 612 beds. A ground-plan of this hospital is given in Miss Nightingale's 'Notes on Hospitals.'

By far the grandest modern hospital, the HERBERT HOSPITAL, at Woolwich, is constructed on the pavilion system. An admirable account of this hospital, illustrated with numerous plans, has been published by Capt. Douglas Galton.†

The new St. Thomas's Hospital, now in course of erection opposite the Houses of Parliament, is also designed in the pavilion style.

The principles of this system of construction are thus briefly stated by Miss Nightingale :—

Principles of Hospital Construction.—The first principles of hospital construction is to divide the sick among separate pavilions. By an hospital pavilion is meant a detached block of building capable of containing the largest number of beds that can be placed safely in it, together with suitable nurses' rooms, ward sculleries, lavatories, baths, water-closets, all complete, proportioned to the number of sick, and quite unconnected with any other pavilions of which the hospital may consist, or with the general administrative offices, except by light airy passages or corridors. A pavilion is, indeed, a separate detached hospital, which has, or ought to have, as little connection in its ventilation with any other part of the hospital as if it were really a separate establishment miles away. The essential feature of the pavilion construction is that of breaking up hospitals of any size into a number of separate detached parts, having a common administration, but nothing else in common. And the object sought is, that the atmosphere of

* A distinguished provincial architect recently told me that he saw grave objections to the pavilion style, inasmuch as the elevation of the buildings would thereby be hopelessly destroyed—about an average idea of the requirements in hospital architecture, I fear.

† *Herbert Hospital, Woolwich.*—'Report to the Right Hon. the Earl de Grey and Ripon, Secretary of State for War, descriptive of the Herbert Hospital at Woolwich.' By Douglas Galton (late Captain Royal Engineers), Assistant Under-Secretary of State for War. Presented to both Houses of Parliament, by command of Her Majesty. 1865, price 8s. 6d.

no one pavilion or ward should diffuse itself to any other pavilion or ward, but should escape into the open air as speedily as possible, while its place is supplied by the purest obtainable air from the outside.

The question of a general hospital plan resolves itself, first of all, into obtaining the most healthy structure of the pavilion; and second, into arranging all the pavilions in the way best suited to obtain free external ventilation, plenty of light on all sides, and convenient means of communication. To realise these advantages pavilions may be placed side by side or in line. The arrangement of pavilions side by side should be adopted for hospitals of above 120 beds; the arrangement in line is most suitable for small hospitals, with fewer than 120 beds. In the larger class of hospitals the arrangement of pavilions side by side diminishes the distance to be traversed from block to block, and thus materially facilitates the administration.

Besides this, it allows covered communications to be kept up between all parts of the hospital without interfering with the lighting or ventilation of the wards.

The distance between the blocks should not be less than double the height of the blocks. This rule is specially applicable to English climates, in which it is necessary to preserve as much space as possible for sunshine. A greater distance would be better, but this would involve a greater cost for land and a greater distance to be traversed by the hospital staff. Generally, the distance between the pavilions should be greater than twice their height in low confined localities, where there is not a free external movement of the air. If the wards are raised on basements the rule as to distance should apply only to the height of the pavilion from the floor of the ground-floor ward. In very close positions it is difficult to say what distance will be found sufficient for free ventilation. Such localities are precisely those where no hospital should be built.

The plans of all the English county asylums erected within the last twenty years have been copied, with slight modifications, from the old monastic hospital of St. Mary of Bethlehem, A.D. 1246, after the model of which the New Bethlehem Hospital (the third) was built in 1815. These plans consist essentially of a system of wards, each in itself a distinct asylum, and consisting of a long gallery with a number of cells opening off it; of a day- and dining-room, and one or two dormitories, together with the necessary attendants' rooms, baths, scullery, water-closets, work-room, &c. Whatever modifications* the architect may have introduced in the detail of his plan, the gallery system of construction, *i.e.* of making each ward a distinct place of living by day and by night, with all the necessary appliances for this object, were scrupulously adhered to. Two of the best county asylums, the Derby and the Essex, may be cited as illustrations of the gallery style of asylum architecture. At St. Luke's and Bethlehem this style may be seen in all its more dismal features.

* The most valuable modification of the gallery style was that introduced, I believe, through Mr. Gaskell's advocacy, on his accession to the Commission, of giving to all the galleries and wards, without exception, a south or south-west exposure. The plan of the centre block at the Lincolnshire County Asylum was, while in course of erection, altered to carry out this important principle.

In 1857 the Commissioners sanctioned, for the first time, a departure from this gallery style of architecture, in the plans of the Sussex Asylum, in which a third story, consisting of sleeping-rooms of various dimensions, was added. Otherwise the old plan of making each ward the living and sleeping place of the patients and attendants was adhered to.

On the other hand, the practical experience of the medical superintendents of the county asylums has in each enlargement or extension of the buildings led them to depart from the gallery system, and to build instead day-rooms and sleeping-rooms more in harmony with ordinary hospital arrangements. This is a curious fact—asylum plans and asylum architects for twenty years adhering to the time-honoured Bethlehem gallery style of architecture, and, on the other side, the medical superintendents rejecting the style on every occasion, and systematically setting it aside in all subsequent enlargements of their asylums. Thus, I may refer to Dr. Bucknill's "New House" at the Devon Asylum,* as the first effort on the part of a medical superintendent to free himself from the old gallery style of asylum architecture. A similar result may be seen in the new buildings at the Lincolnshire Asylum, as also at the Wilts and Gloucester, and markedly in those erected by Dr. Brushfield at Chester, a description of which may be found in the 'Fourteenth Report of the Commissioners in Lunacy.' The same observation applies to the new buildings at the Essex Asylum, and to the large additions in progress at Hayward's Heath. Dr. Brushfield, in his description of the new buildings at Chester, enforces this contrast with the gallery system, and points out how, in his plans, the main feature is the placing of the day-rooms all on the ground floor, and the sleeping-rooms above, and the omission of the gallery altogether. These buildings are thus all assimilated to ordinary hospital construction. Similar views have been stated by Dr. Sankey† and Dr. Arlidge,‡ and also found expression at the annual meeting of this Association in 1864, in a paper read by Mr. Toller, "Suggestions for Cottage Asylums."§

It appears to me|| that the pavilion principle of hospital construc-

* 'Journal of Mental Science,' April, 1858. See also two papers by Dr. Bucknill:—1. "On Asylum Architecture and Arrangements," 'Journal of Mental Science,' April, 1857. 2. "Description of a Proposed Asylum for 650 Patients on the Separate Block System," 'Journal of Mental Science,' January, 1862.

† "On the Construction of English Public Asylums," 'Journal of Mental Science,' July, 1856.

‡ 'On the State of Lunacy, by J. T. Arlidge, M.B. Lond.' London, 1859.

§ 'Journal of Mental Science,' October, 1864.

|| In 1865 I saw at Pau, through the kindness of M. Auzouy, the director of the asylum, the plans of the new asylum for the department (for 500 patients) then in course of construction. I also visited with him the magnificent site selected for this asylum. The general idea was that of a central corridor, running east

tion may, with certain modifications, be applied to systematise these efforts to free ourselves from the gallery style of asylum architecture, and that it may aid us in further assimilating the arrangement of our public asylums to those of other general hospitals.

The plan (*see ground-plan annexed*) which I now submit to this meeting, is such an attempt to illustrate the manner in which the pavilion system of hospital construction may be made to fulfil the requirements of an English public asylum for the insane. Of course, many points of detail in an asylum differ materially from those of a general hospital, such as the necessity for single-rooms, of precautions for safety and against escape, means of employment and recreation, and such like.

I have drawn this sample plan for 250 patients, with power of extension to 400 and 550 beds, a facility which the pavilion style of architecture more than any other affords.

The leading feature of this plan is a central corridor running east and west, and with which the administration block, the kitchen block, the workshops, the laundry, and the several ward-pavilions, directly communicate. Under this central corridor is a subway for water- and gas-pipes. A few words will explain the details of each block and ward-pavilion.

1. *Administration block*.—I have assigned (in accordance with the first principles of the pavilion system) a separate block to the offices and officers' quarters, and another to the kitchen and dining-hall. The *Administration block* faces north, and contains on the ground floor the main entrance, with porter's lodge, the committee rooms, and the offices of the medical superintendent, steward, head attendants, the visiting- and class-room, the housekeeper's work-room, and the surgery. On the first floor (*see first-floor plan annexed*) I have placed the private apartments of the resident officers of the asylum, and on the second floor the sleeping-rooms of the female servants (house and laundry). Thus, all the resident officers and servants of the asylum, not directly associated with the care of patients, would have their living- and sleeping-rooms in the administration block. Connected with this block at the east end I have placed the chapel, and at the west end the residence of the medical superintendent. The administration block is connected with the central corridor by the main entrance corridor, adjoining which on the east side are the steward's stores.

2. *Kitchen block*.—A second block, facing the south, and placed in the centre of the main corridor, thus dividing the male from the female side of the asylum, contains the kitchen and offices, the

and west, with detached wards opening into it north and south, thus appropriating the main feature of the pavilion style of hospital architecture. I believe this plan of M. Auzouy to have been the first attempt at the application of the pavilion system to asylum architecture.

general recreation hall, and a dining-hall for the patients of each sex, and two attendants' and servants' halls. This building is one story, and open to the roof throughout. In the basement underneath I have placed the beer-cellar, bakehouse, dairy, vegetable cleaning-room, the coal, flour, and other stores. There is ample space for a large well-lighted basement under this block, and which would have a communication under the central corridor with the steward's stores.

3. *Ward-pavilions*.—On both sides of the kitchen block, and each directly connected with the central corridor, I have placed three detached ward-pavilions for the due classification of the patients of each sex.

a. *The Infirmary pavilion*.—I have made this a one-story building, with a dormitory for twenty patients, and a day-room connected with it facing south, and opening with a glass door on the infirmary gardens. I have placed six single rooms and two attendants' rooms near the entrance. The attendants' rooms have each a window looking into the dormitory. Connected with the day-room is a bath-room, with water-closet and sink, and on the other side a ward store-room for clothing, &c., and a scullery. The superficial space allotted to each patient is ninety feet, including day-room and dormitory. The infirmary ward would be warmed by four open fires.

b. *Ward-pavilion for chronic cases*.—I have placed next the infirmary a three-story building of the most simple and inexpensive kind, for the accommodation of the chronic cases. In this plan I have fixed the number at seventy. The day-rooms (two) are on the ground floor, and open directly on the airing-court. They are simply ordinary sitting-rooms. For the purpose of better ventilation, I have placed the water-closet in an abutment, with an entrance passage ventilated on two sides. On the first and second floors I have placed the dormitories, providing also attendants' rooms and lavatory, and several single rooms. The superficial measurement required by the Commissioners (being fifty feet for sleeping-room, and twenty-five feet for day-room) has been observed. These wards also are heated by two open fires in each. Additional heat might readily be obtained in each ward-pavilion by the addition of Perkins' high-pressure steam-pipes to each open fire. I have seen this simple application work thus both simply and well, and without any extra cost for fuel.

c. *Ward-pavilion for acute cases*.—I have placed the number here at thirty. The pavilion in this instance is a two-story building. On the ground floor is the day-room, bath-room, ward-store, &c., with seven single rooms opening on one side out of a gallery, an attendants' room, and padded room opening from the day-room; and on the second floor other seven single rooms, attendants' room, &c., and a dormitory for sixteen beds.

The day-room opens directly into the airing-court, and this pavilion is also heated with open fires only.

4. *Bath-house*.—I have placed a detached bath-house on each side on the north of the central corridor. Our English hospitals* are still very defective, as compared with those of the Continent, in all that relates to the therapeutic uses of water. In no disease does water exercise so healing and soothing a power as in insanity. The bath-house of an asylum should be detached from the wards, and should contain, beyond the ordinary warm baths, a vapour bath, a Roman bath, douche pipes, &c. &c. A good bath-house would be an inexpensive addition to the plans of a county asylum.

5. *Laundry and workshops*.—These are placed at the east and west ends of the central corridor, and face north. They form a working and laundry court, and both admit of ready extension. The boiler-house may be most conveniently placed against the laundry.

6. *Total accommodation*.—The plan I have ventured thus briefly to bring to the notice of this Association is adapted for the reception of 250 patients, with arrangements for extension, by the addition of one or two pavilions for chronic cases, to 400 and 550. One of these extensions on each side of the asylum is shown on the plans in dotted lines. The numbers would be thus distributed:—

I. *Day-room accommodation.*

	Male.	Female.	Total.
Infirmary pavilions	25	25	50
Ward-pavilions for chronic cases	70	70	140
Ward-pavilions for acute cases	30	30	60
			<hr/> 250

	Male.	Female.	Total.	
<i>In future extension a ward-pavilion for chronic cases gives</i>	75	75	150	} <i>Future extension to 400 and 550.</i>
<i>And by a second ward-pavilion of the same kind, other</i>	75	75	150	

II. *Sleeping accommodation.*

	Dormitory.	Single Rooms.	Total.
Infirmary pavilions	40	10	50
Ward-pavilion for chronic cases	120	20	140
Ward-pavilion for acute cases	32	28	60
	<hr/> 192	<hr/> 58	<hr/> 250

The proportion of single rooms provided is one in four. I have

* I would ask if any of my readers have seen the bath-cellar at St. George's Hospital, or had an opportunity of comparing therewith the splendid bath-house at the Hôpital Saint Louis, Paris?

done this, looking to future extensions by the erection of one or two pavilions for chronic cases, which would reduce the proportion of single rooms respectively to one in five and one in six, beyond which it is hardly wise to go.

I have thus briefly stated the general features of my plan. My object to-day is, not to enter into the details of asylum architecture, but simply to indicate generally the manner in which the pavilion system may be applied to the requirements of asylum architecture.

Lastly, sir, the advantages which would result from the introduction of the pavilion style of architecture in the construction of public asylums for the insane may be thus briefly stated:—

a. Economy in construction.—The absence of galleries and of the various passages of communication reduces the extent of roof, always a costly item in the structure of an asylum. The central corridor of a pavilion asylum would only be one story high, and hence be found an inexpensive means of communication between the different departments and wards or pavilions.

According to an estimate furnished by the surveyor for the county of Sussex, an asylum on this principle may be constructed and fitted for £150 per patient, while £50 would represent the probable cost of future extensions.

b. Facility of future enlargement.—I have shown by dotted lines on the ground-plan how readily another pavilion for seventy-five patients can be added on each side without altering any feature of the building or principle of construction. The central corridor can be extended either in a straight line or at right angles, as circumstances may direct. If the administrative and kitchen blocks be designed large enough for the ultimate numbers proposed or expected, any subsequent additions to these buildings or to the number of pavilion wards would be of comparatively small cost, not £50 per patient.

c. Separation of the several departments of the asylum one from the other.—Thus, at the entrance facing north is placed on the plan the administration block, containing all the usual offices, stores, with officers' and servants' quarters, chapel, &c. &c. Then the kitchen block, with the dining-halls, &c., and in the basement the beer-cellars, bakehouse, vegetable-room, and so on. To the right and left are the detached ward-pavilions, comprising the male and female wards.

d. Efficiency in working.—The supervision of the entire establishment is rendered easy by the central corridor, which communicates with every department of the asylum. Next, the ventilation is rendered simple and effective by the detached position of the ward-pavilions, each of which has a thorough ventilation, north, south, east, and west. I consider this an inestimable gain. Again, the quiet of the several wards would evidently be much promoted by

their detached position one from the other; and yet the whole asylum life would be one complete system, through the common dining-halls and recreation-hall, the general bath-houses, laundry, workshops, &c. &c., as much, at least (I think more so) than is found in the existing gallery system of asylum architecture.

*An Introductory Lecture read at the Opening of the Clinique for Nervous and Mental Diseases in the Royal Charité in Berlin, 1st May, 1866.** By PROFESSOR W. GRIESINGER, M.D. Translated by JOHN SIBBALD, M.D. Edin., Medical Superintendent of the Argyll District Asylum.

GENTLEMEN,—I now commence a course of clinical demonstrations and discussions in which mental and nervous diseases are for the first time to be made the subject of instruction in union with each other. The position will also on this occasion be outwardly and practically realised, that diseases of the nervous system form one inseparable whole, of which the so-called mental diseases only embrace a certain moderate proportion. This position is by no means one which has been accepted as a matter of course. It is a scientific acquisition only of the present day, the recognition of which will cause great changes, remove many errors, and must open up new developments in all directions.

A comparatively small proportion of nervous diseases are found in asylums; and they are placed there only from outward considerations of treatment and protection, such as the necessity for separation from the ordinary conditions of life, isolation, occupation, &c. &c. The phase of our specialism in which these alone were recognised as coming within its province has now been passed through, and I believe that the time will soon arrive when only those will be true specialists in psychiatry who survey the whole domain of nervous disease, and cultivate it as widely as possible.

It has been supposed up to the present time that the study of mental disease was distinguished by some difficulty *sui generis*, and that the study of ordinary medicine had no direct bearing upon it—that the only entrance to psychiatry lay through the dark portals of metaphysics. And yet the other cerebral and nervous diseases which, with the so-called mental diseases, form an inseparable whole, have not, so far as I am aware, been hitherto much elucidated by metaphysics; and in Germany the time has quite passed away when

* Professor Griesinger furnished some explanatory notes for the report of this lecture, which appeared in the 'Archiv der Heilkunde.' They accordingly accompany the English translation.

psychiatry could be developed from a specially philosophico-psychological point of view. *Ætiology*, diagnosis, prognosis, and therapeutics, are the departments in which we must seek both our work and, that being successfully accomplished, also our fame. Therapeutics especially derive the greatest advantage from such undivided study of all nervous diseases. Every acquisition in one branch of the subject exerts a beneficial influence upon the whole.

And, in regard to forensic medicine, can it be doubtful who is most competent to form a legal opinion on morbid conditions of the mind? He who has not made the hereditary conditions of mental disease an object of study, who has not learnt by much observation of their peculiarities to recognise those that are predisposed to insanity, who has no thorough acquaintance with epilepsy, who has no knowledge of the highly interesting changes which occur in lesions of the nervous system, will play a sorry part as a forensic expert in doubtful conditions of the mind. If one proceeds upon abstract propositions, perhaps on the supposition of conflicting good and evil principles in humanity, or directs his attention to the investigation of obscure and subtle questions, he cannot perform his duty here. But if he carries on the psychiatric consideration of the whole individuality with real positive knowledge—and this is certain to be so much the more possible the more one is at home on the whole subject—to him, as was remarked above, our speciality will satisfactorily unfold itself.

Thus, if I were to indicate by one word the point of view from which I form a conception of mental disease, it would be the *neuro-pathological* or rather *cerebro-pathological*. And my intention to-day is to direct your attention to a part of the subject upon which you are now entering, in the light of that conception, and to lay before you a series of examples of how I regard the interdependence of all nervous diseases, and thus to introduce you immediately to some of the most interesting facts of our science.

Among the insane whom you will see here you will, from an *ætiological* and *pathogenic* point of view, be able to distinguish two principal groups.

The one consists of purely acquired, so to speak, *accidentally arising*, diseases of the brain, which are marked by such predominating mental derangement that we call them mental diseases.

An injury to the head is very often followed as an ulterior result by a so-called mental disease. You may be brought into an asylum for the insane in consequence of swallowing the eggs of a *tænia*. Syphilitic diseases, degeneration of the arteries of the brain, disease of the internal ear, previously existing typhus, or a sudden suppression of the menses, may produce an affection of the brain accompanied by mental derangement. Sudden and great terror may be the cause of very intense mental and other symptoms of cerebral disease; and

the persons who become ill in this manner are not necessarily characterised by any special peculiarity; they may be cultivated or uncultivated, intellectual or unintellectual, and of any condition as to disposition, character, or manner of life.

But another, a second group, much larger than the foregoing, consists of patients in whom brain disease with derangement of the mental functions arises in a less fortuitous manner—with whom the predisposition thereto has existed, not only in themselves, but in their family. Yes, gentlemen, it is a certain truth that a great part of the life-destiny of mankind is determined with infinite fixity through influences which have wrought upon the early germ; that thousands, without fault of theirs and without the possibility of helping it, bear the heavy burden of this predisposition, and that the step-children of nature as often become also the step-children of destiny. At the first glance the truth may appear only sad and disheartening. But the science which makes us acquainted with the circumstances also indicates the remedy. It teaches us how so severe though unavoidable an evil may be influenced prophylactically, and must be so influenced—how hereditary predisposition may be overcome, removed, or at least diminished, by the renewing of the blood in families and by morally ordered life in individuals. Medicine can here, indeed, only counsel, not command; but it will only be when its influence over these conditions comes completely into play that its great social end will be fulfilled.

Now, this predisposition which we find in so many of our patients is to be conceived of as neuropathic, and not merely as psychopathic, and it will only be completely understood by a survey of the whole domain of nervous disease. It is not alone from mental disease or from peculiarities, eccentricities, and such like, that the parents and blood-relations of those who come into asylums have suffered, but from epilepsy, hysteria, hypochondria, chorea, chronic headache of unknown origin, from paralysis and from nervous irritation; and we have to investigate all these conditions if we wish to acquaint ourselves with the real predisposition of our patients.

Those persons who are thus predisposed may, however, be again divided into two sections.

1. Persons with simple hereditary or family predisposition. The parents or blood-relations may have suffered from mental or nervous disease, but still there is no appearance in them or in the family of any remarkable bodily deformity—no signs of what we may name, according to that excellent alienist, Morel, degeneration, that is, deterioration of race. These cases are not so frequent as is supposed, yet they do occur. I possess the genealogical tree of a family through two generations, including twenty-six individuals. Among these there are nine insane, besides five who have committed suicide, several others being regarded as eccentric and of somewhat irritable

temper. I was myself lately acquainted with several members of this family, and the circumstances of others of them were communicated to me in writing. The greater number are well formed, strong, and some are really handsome persons; several are intellectual, useful in their condition of life, and some are held in high esteem. They bear no appearance of degeneration, the decided hereditary tendency has not as yet assumed the character of deterioration of race, and, what appears to me to be well worthy of remark, although there are in this family several suffering not only from mental but also from nervous symptoms, there is not among them a single epileptic.

2. More frequently, however, than those just mentioned, we find persons of hereditary neuropathic predisposition who have something in their organization which distinguishes them from the majority of mankind, who by some form and in some part of their frame are marked as peculiarly afflicted by nature. These signs of degeneration may consist in very slight and minute changes. There may be counted among them, for example, many peculiar forms of the external ear.* And although we find these alterations in persons who in every other regard are normal, and where they may have little signification, we are scarcely on that account justified in considering their appearance among those affected with nervous or mental disease as accidental, for it appears to be proved that these anomalies in the structure of the external ear are most frequent among that class of patients.†

I am inclined to believe that there is also a certain condition of the eyes which may be considered as a sign of the neuropathic predisposition, though not, perhaps, of degeneration; for these eyes may be very beautiful. I will not, therefore, describe further this not very frequent appearance of the eye; but when it presents itself among our patients I shall not fail to direct your attention to it.

The most unmistakable and striking manner, however, in which the degenerative character is shown is in the frequent condition of dwarfing of the body, retarded sexual development, malformations of the sexual organs,‡ deficient formation of teeth, excessive action of the facial nerve of one side, especially disagreeable expression of the countenance, and last, and not least, in the different forms of malformations of the skull. In such families the strangest and most interesting combinations of nervous diseases occur. An epileptic

* Morel, 'De la Formation du Type,' &c., 1864, p. 36) considers the malformation of the external ear as not necessarily a sign of degeneration, but as for the most part associated with a neuropathic condition of the parent.

† Among the 104 insane persons who are at present in our lunatic department there are only 22 with perfectly complete and well-formed ears.

‡ We have an extraordinary case of this kind in the department—a woman without a uterus. She had occasional attacks of erotic delirium, which, however, were of some duration.

young female, with degenerative formation of head and face, had a sister who came into the world with a defect in the skull, and probably in the brain, and who died in the second year of her existence, without having exhibited a trace of mental development; the father and one brother are eccentrics, who take a gloomy view of everything, and, what is worthy of remark, another brother of the father died of diabetes. This is not a singular example of the occurrence of diabetes in neuropathically and psychopathically predisposed families; indeed, it is often supposed to be primarily a lesion of the nervous system.*

When once insanity makes its appearance in a family in which considerable signs of degeneration exist, epilepsy will seldom fail to be found, and these signs will be found more frequently among the epileptics than among the insane. In epilepsy, quite as much as in insanity, a division into two groups is to be observed—the purely acquired, or, so to speak, accidentally arising: and those depending on internal predisposition—cases frequently exhibiting the degenerative character. I spoke fully on this subject during last session, in the clinique for nervous diseases.

No well-defined difference has yet been shown between the forms of epilepsy in these two great groups; but the neuropathically predisposed insane frequently, though by no means always, exhibit something peculiar in the form of the mental derangement, so that we may, in a certain number of patients, know from the form of their insanity how to arrive at a pretty certain conclusion as to the existence of the neuropathic predisposition. We are here again indebted to Morel for the observation of these facts, and I shall have many opportunities of showing you examples of them.

He only who has been accustomed to direct his attention to the symptoms and signs of the neuropathic taint can in a court of justice, and, indeed, even in ordinary life, understand the condition of a great number of individuals who to others would appear to be quite inexplicable problems. We certainly meet with not a few of these persons in everyday life, or we find them, where they are brought by their errors or their crimes, at the bar of justice or in the prison, though many go through the world like other men, without exhibiting any actual outbreak of insanity.

Some astonish us by their irritable, passionate, abnormal, eccentric condition, which to those in health appears incomprehensible. Others always remind me of the colour blind. As there are persons who

* I have lately for the first time observed a case of diabetes mellitus in a person of unsound mind, with a great proclivity to distressed condition of mind, harbouring thoughts of throwing herself out of the window. Professor Seegen, of Carlsbad, who has had much experience in diabetes, informed me, during a late visit, that he had frequently observed mental derangement accompanying this disease.

can distinguish neither red nor blue, nor yellow, but see everything as if it were grey, so there are persons to whom the whole many coloured profusion of the æsthetic and moral world is, in consequence of a certain organic peculiarity, not recognisable, and to whose mental vision everything appears of one unvaried grey. There are yet others who are not deficient in the perceptive or receptive faculties, but in the "reactive," the emotions and the will. They are quiet, tranquil beings, in all conditions of life the saddest as well as the most joyful; they remain continually calm, not from any internal equanimity and harmony, but from frigidity—from a frigidity which to persons in normal conditions appears inconceivable and monstrous. There is here an emotional defect of an altogether interesting kind; as there are refined and æsthetic geniuses, so there is also a decorous and æsthetic shallowness, which may go the length of idiocy, and the examples of such deficiencies might be indefinitely extended.

But it will be asked, to what doctrine will such views lead? Are, then, these individuals diseased? Are they insane? Are they, as insanity is disease of the brain, suffering from brain disease? May not people be in any way different from one another? Must all be cut according to the same pattern? Will not the alienists, as I have actually heard it said, be taken for mad—they who see nothing anywhere but mental peculiarities, who in the end would desire to put down for monomania every originality and even genius itself?

It is quite right that these questions should be put forth, so that they may receive an immediate answer. All these individuals are not yet either insane or suffering from disease of the brain; in many it remains during life as a mere predisposition, and something more requires to be added on before predisposition can pass into disease. But it must be acknowledged to be a very decided anomaly if a person regards the impressions received from the external world and from his own body differently from the generality of mankind, and if he thus forms a different idea of the surrounding world; if the power of comprehending whole provinces of thought and feeling is denied him, so that he cannot attain to all the characteristics of humanity, or if he is possessed of tastes, instincts, and passions, quite foreign to the great majority of mankind, but which in him have an almost unresisted power. We have good ground for the belief that such a deficiency in mental equilibrium depends on an abnormality in the psychical mechanism of the nervous system, for the increase of these anomalous conditions of the mind is generally accompanied by symptoms of bodily disease, such as a convulsive seizure or a peripheral irritation of some nerve province. For instance, irritation of the pudendal nerve may introduce and excite these anomalies, or a peripheral anæsthesia may accompany them during their advance, and may exist and disappear along with them.

The power of observation in the alienist is at least sharpened by exercise as regards those persons who show their insanity more by deeds than words, deeds whose import as signs of mental aberration is incomprehensible to the non-professional public; and consequently, he does not confound originality and genius with monomania. For this diagnosis he has only one, but that an infallible, test :—By their fruits he recognises both.

But when, from the neuropathic point of view, he looks behind the pathological *coulisses* he will meet with surprising results indeed. One of the parents or grandparents of one of these singular individuals was insane, epileptic, and deeply hypochondriacal, and died of diabetes; one of his brothers or sisters suffered from vertigo, another from chronic headache, &c.; the individual himself has already had attacks of convulsions or of vertigo, perhaps only a single one, but one epileptic seizure is enough to entirely change the nature of a person; the man may become eccentric, or the woman “nervous.” And if only one of the brothers or sisters has so suffered the family constitutes thus far to a certain degree a pathological unity, an attack of convulsions or a severe neuralgia so often vibrates through many of its members.

So much, gentlemen, I wished to remark at present on the conception of the predisposition to mental disease from the neuropathic point of view. It would be just as easy for me to represent the inseparable and intimate connection of the symptoms of the so-called mental diseases with other nervous diseases, and thus to illustrate further the correctness of the neuropathic view.

In the brain diseases which we call mental diseases anomalous phenomena of movement and of sensation play an important part, and the latter class especially constitutes sometimes the whole foundation and cause of the mental disturbance, so that such disturbance does not appear or ceases to appear, according as the anomalies of sensation are absent or are arrested. I do not speak here of hallucinations, which are something more than pure sensations, as we shall see further on. I would rather speak to-day of certain forms of mental disease which are so directly connected with anomalies of sensation of an ordinary kind; the whole malady is, at its commencement, only an abnormal sensation, and exhibits no real aberration in the sphere of the emotions, nor, indeed, of the intelligence, and which show us so completely the intimate connection of anomalous conditions of the mind with other nervous diseases.

You know what part the *aura* plays in epilepsy. In a great number of cases it ushers in the attack, which explodes in convulsions; and we have good reason to believe that, though it can be truly peripheral, it may also be entirely central in its origin. Now, there are cases of *permanent non-explosive aura*, which are nothing

else than mental disturbance. These highly interesting and by no means rare cases I consider very remarkable and peculiar, though they are as yet almost wholly unrecognised conditions. They would fill a large chapter in the special pathology of cerebral disease, as they present very different appearances according to the organ or part of the body from which the aura proceeds, or appears to proceed, for it must be borne in mind that here also it may be undoubtedly central in its origin.

Among the best known are those cases of patients in asylums in whom an abnormal sensation in the region of the epigastrium gives the key-note to the whole illness. Like a stone, or like a hundred-weight, say these patients, it lies in the pit of their stomach; from this it arises, from this the thoughts become confused, or strange thoughts emanate; were this absent they would have no distress, and would be in health. These cases are often known as precordial distress (*Præcordialangst*), under which name, however, other affections are included.* Sometimes the sensation appears of a very decidedly streaming character, as a real but non-explosive aura. I can never forget the case of a strongly built vigorous rustic, who for a whole month spent the greater part of each day weeping and wringing his hands and going about half desperate; two hot streams, he continually said, ran up from the region of the epigastrium towards the head, and caused him unspeakable distress, pain, and confusion.

There is a like peculiar condition which as yet has never been particularly described, and which I might call *frontal distress*, or frontal dysthymia. The patients complain of a feeling in the forehead, in which alone they say that their suffering consists. They seek for an expression which will indicate the sensation; all agree that it is not pain; would that it were pain, say many. They call it sometimes an agony, sometimes as something alive, at other times a weight, a load, and such like. Many can give its exact position—how widely this agony, which is not pain, extends, for instance, to a few lines over the root of the nose, where it is marked as a very real and well-localized sensation.† As long as these feelings exist the patients are nearly unfit to think; they are restless and uneasy. The peculiar effects of this sensation have much more influence upon, and are much more influenced by, the operations of the mind than any pain whatever. An elderly gentleman who consulted me in two attacks of this affection was, as he himself told me, driven to attempt suicide, which, however, was fortunately pre-

* The term dysthymia epigastrica would, perhaps, be more suitable.

† There are also cases where a morbid sensation in the crown of the head is experienced, periodically coming and going; and sometimes the feeling is like that of a hot plate, which is always accompanied with the presence of a certain train of thought, disorder in the feelings, and impossibility of setting them right.

vented, by the anguish of feeling which was excited merely by this sensation in the forehead.

Analogous morbid feelings arise occasionally from the pelvic organs, very probably, though not with absolute certainty, from the genital organs, and directly excite an all-pervading morbid condition of the mind. In order not to prejudge the matter, the name of *dysthymia hypogastrica* may be provisionally given to the affection. It may be that this form in its characteristic phase is almost peculiar to females. A girl of twenty years of age, who was here last winter, could express herself often and clearly upon these conditions. The periodical suffering began with burning and distress in the hypogastric region; then it mounted up "warm," and suddenly struck into the head. Then the distress overtook her, and it was "as if she were compelled to have difficulties in her mind about everything," and, indeed, disagreeable thoughts, "as if she were forced to set everything in opposition to God," and as if she had more liking for the devil. She had then a much greater number of thoughts than usual, "and all that she thinks she can imagine real;" when she shuts her eyes "she can see everything before her that she thinks about, and whatever place she thinks about she imagines that she herself is there." Her head is then heavy and confused, she goes about weeping and wailing, and complains to every one of her distress. This condition may last for eight days or more. If the sensation does not come the thoughts stay away; the distress is away, and she is lively and rational. She has habitually a feeling of emptiness about the pubic region, and has also now and then masturbated, notwithstanding which the non-explosive aura may certainly be central, for she has already had repeated attacks of vertigo, and on one occasion she fell from her chair—scarcely mistakable indications of an epileptic condition.

In one person about whom I was lately consulted the aura exploded, not, however, in an epileptic seizure, but in terrible violence. The man, a brandy drinker, lay in a room with his five children, who were that morning all asleep. It came into his mind that he must then destroy the children, but how could it be most conveniently done? He narrates, "It rose into my head like foam; it went through the chamber like a shot, or like a strong gust of wind; a strong odour of marjoram filled the chamber and took away my senses; my thoughts vanished, so that I sank down." He soon rose again, however, seized an axe and hacked right and left among the children, three of whom fell victims to his violence. If nothing else were known than the deed and these details furnished by himself, the epileptic might almost with certainty be recognised; but the medical investigation revealed actual and well-defined epileptic attacks.

Again, there are insane persons with very extensive lesions of

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sensibility, with peculiar dragging, boring, vibrating, staggering sensations, evidently depending, to some extent, on anomalies of the muscular feeling, which call forth a condition of general emotional unrest, irritation, anxious frames of mind, and their corresponding delusions. If the sensations could be got rid of, everything else, at least at the commencement, would disappear.

In other cases mental derangement is directly excited by neuralgia of the ordinary kind. These cases appear to me to be not very rare, though the subject has not yet received much attention. Last winter I had a gentleman under my care in whom a double occipital neuralgia was followed by a deep melancholic state of mind. In the polyclinique last year several cases presented themselves which exhibited the process in great simplicity, and were therefore very instructive.*

One case especially has interested me in the most lively manner, regarding which my dear and amiable patient gave me such friendly and important details as are only to be obtained in few cases. The patient was affected with a neuralgia of the fifth nerve of the left side. After considerable emotional disturbance an attack came on one day which soon passed into a condition of severe distress. From this time forward the neuralgic attacks assumed a peculiar character; after they had continued a certain time the pain disappeared and a pleasurable feeling set in; then feelings of distress came on, which

* A woman of forty years of age has had for many years a neuralgia of the first branch of the fifth and of the occipital nerves of the right side, which is said to have come on originally as the sequel of an attack of erysipelas. Two years ago new phenomena made their appearance. The pain begins in the posterior of the orbit, whence it spreads like a veil over the head; then, if the patient shuts her eyes during the attack of pain, she sees senseless shapes of all possible descriptions, and becomes possessed of irrational thoughts; she sees people "driving and running," also gardens and such like, about which she never thinks at other times. Now and then she sees frightful things, such as skeletons; sometimes she has a falling sensation and distress, as if some one was about to do something to her or as if she had done something herself. Another case, in the *Charité*, a girl of eighteen years of age, suffered from repeated attacks of confusion, deep emotional disturbance, and erotic excitement, which always began with a supra-orbital neuralgia of the left side. The attacks of mental disturbance lasted from ten to fourteen days, and were then followed by a period of remission of a fortnight or three weeks. As in three or four such attacks this condition was always closely connected with the neuralgia, Fowler's solution was administered during the remission, and the affection did not reappear. A man of forty-five years of age, without hereditary predisposition, had, about a year ago, a feeling of burning between the shoulders. This became gradually more painful, and a very severe neuralgia of the right half of the face supervened, particularly affecting the lower jaw, which lasted almost four weeks. At the same time there was remarked an extraordinary diffuseness of speech, and after eight days there followed an acute attack of mania with violence and exalted ideas. Soon a remission occurred, during which the patient informed us that while he was suffering from the neuralgia he had experienced an irresistible mental impulse; that it had occurred to him that his son was to be killed, and he himself was to be poisoned by the doctor, &c. This maniacal excitement was repeatedly preceded by an intense burning sensation in the neighbourhood of the shoulders.

were especially connected with an appearance of want of room, as if everything about him became narrowed and converged towards him; the walls appeared to approach one another and the ceiling to sink downwards. If he were in the street it appeared as if he got into a *cul de sac* and became the centre of an enormous congregating crowd of people. At first the distress comes on gradually until some external impression or an overwhelming thought comes actively into play, then the condition increases with a bound and the distress now reaches a definite limit. Now on all sides, "circularly," as the patient expresses himself, round these first ideas new ones develop themselves, numberless accessory conditions are superadded with fearful rapidity; he is obliged to dispute about these ideas with imaginary beings; images of acquaintances and friends appear to him, but much distorted and with the most repulsive expressions of countenance, &c. Many times there comes an irresistible necessity to run away, and he can no longer remain master of himself. As he himself once said, "One must stare at the thoughts and be tormented with the conviction that they can be no longer withstood; to think the contrary is impossible." The catalogue of ideas is throughout of a gloomy and frightful kind; personal depravity, suspicion of those around, impulse to throw himself from a height or to leap out of rapidly moving vehicles; sometimes distinct comfort and satisfaction being obtained from the destruction of an object, with a feeling that thereby the bonds which confined him would be burst. Ease and freedom of respiration accompany the termination of these fearfully agonising attacks. The greatest relief was for some time obtained from the administration of chloroform, though it gradually lost its effect. After long and unavailing attempts I succeeded in causing both the neuralgia and the condition of distress to disappear for a considerable time, by the snuffing up of a strong narcotic solution into the nostril of the side affected.

In these examples of certainly remarkable facts concerning a form of insanity existing in close connection with neuralgia we learn to recognise a *dysthymia neuralgica*; but the mechanism of the connection is not in every case the same. In the last case the mental disturbance appears first as a sequel, or as a kind of transformation, of the neuralgic attack, which is itself come to an end, quite in the same way as we often see an attack of mental derangement follow a fit of epilepsy. In the first, and perhaps also in the second and third examples, the mental disturbance is rather the direct result of the pain itself. It acts thus not, perhaps, by its intensity; but, as a neuralgia may call forth sympathetic sensations in other parts of the body, so here it calls forth sympathetic morbid ideas* by the excite-

* This term, *sympathetic ideas* (Mitvorstellungen), which I here introduce into the pathological physiology of the brain, by itself alone throws light on a large number of hitherto quite inexplicable symptoms among the insane.

ment of parts of the brain which are in no way concerned in the neuralgia, ideas whose character is in no way connected with the pain, but which, through the irritation produced by it upon definite portions of the brain, are carried on in a quite separate region of the imagination.

There are a large number of nervous diseases in which conditions present themselves where the principal symptoms consist of numerous sympathetic sensations, and sympathetic and reflex movements in nerve-provinces, that are quite apart from the seat of the original irritation. And there is likewise in mental derangements a pathological mechanism which may be regarded as an intensified dispersion or extension of the disturbed area; other quite remote provinces act in concert which in healthy brain action would have remained quite unaffected by this first exercise of function. There are numerous sympathetic ideas and reflex desires excited in one instance by other ideas, in another by mere sensations. There are processes which are foreign to the healthy association of ideas. New, peculiar, and to healthy persons quite inexplicable combinations and connections of ideas are formed in quite unusual directions. As, for instance, in many conditions of cerebral excitement, sympathetic actions of the most various sensations and ideas act upon the cerebral area of the sexual ideas and feelings; from it commotions are spread around which are never reached in healthy conditions; ideas which have not the slightest relation to the sexual sphere become then accompanied with sexual feelings, ideas, and excitement, and become mixed with them in the oddest manner.

There are a large number of interesting cases generally included under the so-called hypochondria, a name which in practice is received in various senses, but which, at any rate, frequently indicates the first stage of the severest mental diseases, cases, therefore, which depend upon an analogous process. Sensations arising in the interior of the body which in healthy conditions never enter the manufactory of our thoughts, which are entirely removed from our consciousness (although nerves concerned appear to penetrate pretty far into the brain), sensations arising in the domain of the circulation, of the digestion, of intestinal movement, &c., become, as it were, alive, and overstep their usual limits. They break in and seize directly, partly as motive and partly as "material," upon the usual circle of ideas, and thus become a source of new, often of the strangest, and to healthy persons absolutely incomprehensible, ideas and mental pictures. Many patients regard this previously unusual direct intervention of the abdominal functions as something of a foreign nature, and they speak sometimes of their "body" in a peculiar emphatic manner, as of an external power with which they hold intercourse. Is there here a removal of obstructions to the conduction of sensations—obstructions which, as in the case of the processes in the

interior of our digestive system, are to our conscious mental operations in healthy life “*gnädig bedeckten mit Nacht und Grauen*” (mercifully shrouded in night and gloom)? Or are these sensations really of central origin—have we again to do with a kind of central non-explosive aura, which excites abnormal sensations? Further investigation will throw light on these questions.

In the foregoing I have given examples of how the so-called mental derangements are intermingled in the most intimate manner with morbid sensations, and how the latter may form the entire basis of the former. In like manner psychiatry has manifold relations to nervous diseases—the severe motor lesions are closely connected with mental anomalies. To this belong the so-called paralytic forms, among others the *dysthymia* and *dementia tabetica*, where, in association with grey degeneration of the posterior columns, and sometimes with periodic epileptic attacks (which I am inclined to regard as spinal epilepsy analogous to Brown-Séquard’s experiments), severe emotional and intellectual disturbance is developed. But at present I am unable to enter further into the discussion of these matters.

While we daily become better acquainted with the sensory and motor symptoms in the so-called mental diseases, we are getting rid of the group of merely psychological forms which daily give less and less satisfaction to those conversant with the subject. We are arriving at new forms obtained from the neuropathic point of view, and which, being based on the mental, sensory, and motor mechanism, are, on the whole, more characteristic disturbances. They constitute specially psychiatric forms of disease, to which the patients in asylums only contribute a proportion, though certainly a considerable one. If we add to this the pathogenetic differences which I noticed at the commencement, and also in a former lecture,* we give to these forms a broader and surer foundation. The mental disturbances are by no means to be thrown into the background by these considerations; and I willingly confess that to me they will always remain the most interesting. In the mean time I believe that they will be analysed in a different manner into the more essentially concrete than hitherto, more into their elementary processes (for example, distress, anger, loss of will, loss of memory, rigid fixedness of certain ideas, incoherence of thoughts, incoherence of words, &c. &c.), than into the usually recognised compound conditions (*melancholia*, *mania*, &c.). And especially I expect considerable progress in our science from the study of these elementary lesions combined with that of the sensory and motor anomalies. We shall make no progress at present towards what is required for practice, diagnosis, and therapeutics, by any so-called simplification of the forms; but by the working out of the

* See ‘*Journal of Mental Science*,’ January, 1864, p. 543 et seq.

details and the recognition of the neuropathic forms this will be attained.

You see, then, that there is much to be done in psychiatry. During the hours we spend here let us follow tranquilly the leading of facts. Let us search only for what actually exists in nature. Let not our thoughts be diverted in other directions; and we shall certainly be successful if only we observe accurately at first. Casper has, in his book on forensic medicine, discarded mania transitoria on account of the dangerous abuse to which it was liable. Among English alienists, on account of its liability to abuse, voices are now heard pronouncing themselves energetically against the doctrine of moral insanity, a conception of one of their own countrymen, founded on a correct interpretation of nature, and which had been established to the advantage of science. These appear to me to be minor difficulties, which can only be overcome by an unconstrained, experimental, and entirely unprejudiced study.

You will here obtain the foundation of that various knowledge which is required for the solution of these often very difficult questions. You will gather from the patients whom you will see here a little treasure of personal experience, to which your subsequent observations will be added, and around which they will arrange themselves. The principle of the neuropathic view may indicate new regions of investigation, and afford a clue to a great part of the labyrinth. Every onward step made by cerebral and nervous pathology furthers psychiatry, and with each it approaches more closely the other sciences which compose ordinary medicine, and appears as only a small part of a greater whole.

On some of the Causes of Insanity. By HENRY MAUDSLEY,
M.D. Lond.

(*Read before the Harveian Society of London, Oct. 18th, 1866.*)

It is not an easy matter, at least I have not found it so in my experience, when brought face to face with an actual case of insanity, and asked to state the cause of it, to do so definitely and satisfactorily. The uncertainty springs from the fact that, in the great majority of cases, there has been a concurrence of co-operating conditions, not one single effective cause. Two persons are exposed to a similar heavy mental shock: one of them is driven mad by it, but the other is not. Can we say then that the madness has been produced by a moral cause? Not accurately so; for in the former case there has been some innate vice of nervous constitution, some

predisposition of it to disease, whereby insanity has been produced by a cause which has had no such ill effect in the latter case. The entire causes have not, then, been in reality the same. And what we have to bear in mind is, that all the conditions which conspire to the production of an effect, whether visibly active or seemingly passive, are alike causes, alike agents, and that therefore all the conditions, whether they are in the patient himself or in the circumstances of life in which he is placed, which in a given case co-operate in the production of insanity, must properly be viewed as its causes. Mental derangement sometimes appears as the natural issue of all the precedent conditions of life, mental and bodily, the outcome of the individual character as affected by certain circumstances; the germs of the disease have been latent in the foundations of the character, and the final outbreak is but the explosion of a long train of antecedent preparations. In vain, then, is it in many cases to attempt to fix accurately on a single cause, moral or physical; a common mistake on the part of those who think to do so being to fix upon what is really an early symptom of the disease as the supposed cause of it. Religion, self-abuse, intemperance, have all at times been put down as the causes of mental derangement, when they were really morbid symptoms.

As I do not purpose on this occasion to enter upon the pathological causation of insanity, but rather to treat generally of its social causes, it will be most expedient to adopt the time-honoured division of *predisposing* or remote and of *exciting* or proximate causes. I shall, then, touch first upon some of those general conditions which appear to predispose in any way to insanity, and afterwards briefly enumerate the most prominent exciting causes.

Predisposing causes.—There are general causes, such as the climate of a country, the form of its government, and its religion, the state of its civilisation, the occupation, habits, and condition, social and sanitary, of its inhabitants, which are not without influence in determining the proportion of mental diseases in it. Unfortunately, we are without any reliable data respecting the prevalence of insanity in different countries; and even the question whether it has increased with civilisation, and is still on the increase, has not been so positively settled as to be entirely beyond dispute. Travellers are certainly agreed that madmen are only rarely seen amongst barbarous people, while in the different civilised nations of the world there is an average of one insane person in 400 or 500 inhabitants. Some have thought it strange and unlikely that as men improve they should become more liable to madness; but even theoretical considerations might, I think, lead us to expect an increased liability to mental disorder with an increase in the complexity of the mental organization; as there are a greater liability to disease, and the possibility of many more diseases in a complex organism like the human

body, where there are many kinds of tissue and an orderly subordination of parts, than in a simple organism with less differentiation of tissue and less complexity of structure, so in the complex mental organization, with its manifold special and complicated relations with the external, which a state of civilisation implies, there is plainly the favorable occasion of many derangements. As is the height so is the depth, as is the development so is the degeneration. The feverish activity of life, the earnest interests, the numerous passions, and the great mental strain incident to the multiplied industries and eager competition of an active civilisation, can scarce fail to augment the liability to mental disorders. I think, then, we may safely hold, that with the progress of mental development through the ages there is a correlative degeneration going on, and that an increase of insanity is a penalty which our present civilisation necessarily pays; or, to illustrate my meaning, I might say that, as in the stupendous progression of the human race which is going on in time whole nations are seen to drop away and become extinct, as the dead branches drop from the living tree, so amongst nations individuals decay and fall down in the struggle of life as the dead leaves fall from the living branch. It is the way of nature to show little care for the single life, calmly to sacrifice countless feeble individuals in her progress, letting the "individual wither while the race is more and more;" of fifty seeds she often brings but one to bear, and of 500 mortals it is quite clear that at least one "rots, perishes, and passes" in insanity as an abortion.

Such facts as are available tend to confirm these considerations. The sort of insanity most common amongst savages is imbecility or idiocy, for the same reason that idiocy is the most common form of insanity in children; where the mind has not been developed its modes of degeneration must be limited, though it may obviously remain arrested at a lower state of degradation than usual. How is it possible, for example, that typical moral insanity should ever occur where no moral development has taken place? Before the native Australian savage, who has not in his language any words for vice or justice, nor in his mind any such ideas as these words convey to an intelligent European, could become morally insane, he must first be humanised and then civilised—development must precede degeneration, mental organization precede mental disorganization.

Another weighty fact is, that there has undoubtedly been a very large increase of late years in the number of insane in asylums. On the 1st January, 1849, the number for England and Wales was 14,560; six years afterwards, on the 1st January, 1855, it was 20,493; in ten years more, on the 1st January, 1865, it had risen to 29,435; and on the 1st January, 1866, it was 30,869. Now, it is plain that this is a large increase, but it is certainly only in part attributable to an increase of insanity in the population; it

is mainly owing (1) to the large number of cases formerly unreported, or not thought mad, that a more stringent legislation has brought under certificate of lunacy; (2), to the larger number of insane, especially paupers, who are now sent to asylums; and (3) to the prolongation of life in those who have thus been brought under care. But when due allowance has been made for these causes, it must be admitted that a steady increase of about 1000 a year in the insane population of England and Wales for the last seventeen years does point to an actual increase in the production of insanity, and even to an increase more than proportionate to an increasing sane population.

Admit this increase of insanity with our present civilisation, and we shall be at no loss to indicate causes for it in the relations of modern society. No doubt, some would easily find in over-population the prolific parent of this as of numerous other ills to mankind. In the fierce struggle for existence which there necessarily is where the claimants are many and the supplies are limited, those who, either from inherited weakness or some other debilitating cause, are unequal to the struggle will, some of them, break down in madness, and so be passed by as abortive beings in nature. They are too feeble to maintain their social relations, and they represent social wrecks. They are, as it were, the waste thrown up by the silent but strong current of progress; they are the weak crushed out by the strong in the mortal struggle for development; they are examples of decaying reason thrown off by vigorous mental growth, the energy of which they testify. For, everywhere and always, "to be weak is to be miserable."

We have a striking illustration of the operation of this hard law at the present day in the appropriation by man, the stronger sex, of all the means of subsistence by labour, to the almost entire exclusion of women. Because, however, women are indispensable to the comfort of men's lives, at any rate necessary to the gratification of their passions, they are not crushed out of existence; they are kept only in a state of subjection and dependence, and in such state protected. The woman who can find no opening for honorable energy in the present social system may still gain a precarious livelihood by prostituting herself to minister to the pleasures of the stronger sex. Under the institution of marriage she has the position of a subordinate, debarred herself from the noble aims and activities of life, but ministering in a silent manner to the comfort and greatness of him who appropriates the labour and enjoys the reward. Practically, then, woman has no honorable outlook but marriage in the present social system; if that aim is missed, all else is missed. Through generations her character has been formed with that chief aim; it has been made feeble by long habit of dependence; by the circumstances of her position the sexual life has

been developed at the expense of the intellectual. Now, therefore, when the luxuries thought necessary in social life are so many and costly that marriage is much avoided by men, when with an increasing population the number of marriages decreases, there is a severe stress laid upon many a gentle nature. In this disappointment of their life-aim, and the long train of consequences, physical and moral, which it unconsciously draws after it, there is, I believe, a fruitful source of insanity among women. It is not only that women of the better classes, not married, having no aim in life to work for, no outlet for their energies in outward activity, are sometimes driven to a morbid self-brooding, or to an excessive religious devotion which is too often the unwitting cloak of an exaggerated and unhealthy self-feeling, but their whole system feels severely the effects of an unsatisfied sexual passion, and exhibits these in irregular bodily functions, in restlessness, irritability, and moodiness of mind, and in a morbid self-feeling, taking a variety of forms. Women bear sexual excesses more easily than men, but they are less able to endure privations of sexual function. Self-abuse is sometimes provoked, and aggravates the evil for which it was sought as a relief. I do not believe, however, that self-abuse is a frequent cause of insanity among women; out of fifty women whose histories I carefully investigated, and whom I daily observed, in two only was there any reason to suspect this vice, and in them I do not think it was the entire cause, though it doubtless co-operated. In one other case, certainly, the clitoris had been excised, but without any benefit whatever to the patient, and without sufficient evidence, as far as I could judge, of self-abuse having been the cause. It is very necessary to bear in mind that self-abuse is an occasional consequence of mental disease; in reality, therefore, a morbid symptom which will disappear with the cure of the disease. I have seen several cases of insanity in single women over thirty years of age in whom it was natural to have in mind the possibility of self-abuse; but the conviction established in my mind from a careful study of their cases has been that the main cause of this mental derangement was to be sought in the trivial and defective character of female education—an education nowise building women up for the earnest work of life and the successful conduct of it when left to their own resources, but fitting them only for the frivolous purposes of the present fashion of female life; in this want of any outlet for their energies or any aim to live for; in the evil effects of an ill-trained mind thrown back upon itself, and too often innocently fostering morbid feeling under the guise of religious sentiment; and in the general organic disturbance consequent upon these causes and upon an unsatisfied sexual passion. It behoves us, therefore, as scientific men, to take heed that we do not treat symptoms of disease as the cause of it, but to direct our attention to removing or

mitigating those social wrongs which are the real fountain of many of the ills we have to contend with.

Another way in which over-population leads to deterioration of the mental and bodily health of a community is by the overcrowding and the insanitary condition of the dwelling-houses which it occasions in towns, and by the brutal degradation of a peasantry only half fed and miserably housed in the country. In this city, as many here know, there are whole families living and sleeping in one small room, whom our sanitary officers cannot find it in their hearts to interfere with, because the poor creatures pray piteously to be left alone, for they have nowhere but the streets or the workhouse to go to if turned out of the pestilential dens in which they are herded. Not fevers only, but scrofula, perhaps phthisis, certainly general deterioration of nutrition and moral degradation, are thus generated and transmitted as evil heritages to future generations; the acquired ill of the parent becomes the inborn infirmity of the offspring. It is not that the child necessarily inherits the particular disease of its parent—for now that we have got rid of the notion of diseases as specific morbid entities, and justly view them as different sorts or degrees of deviation from healthy life, we are able to appreciate the fact that diseases may undergo transformation through generations—but it does often inherit an inherent aptitude to some kind of disease, or a defective moral nature, or, at any rate, a constitution which is physically and morally destitute of that reserve force necessary to meet the trying occasions of life. Lugol found insanity to be by no means rare among the parents of the scrofulous and tuberculous, and in one chapter of his book on scrofula treats of hereditary scrofula from paralytic, epileptic, and insane parents. Schroeder van der Kolk was also of opinion that hereditary predisposition to phthisis might develop into or predispose to insanity; and, on the other hand, that insanity predisposed to phthisis. There are unquestionably very close relations between these two diseases; not only is one fourth of the deaths in asylums due to phthisis, but tubercle is often found in the bodies of the insane who have died without ever having been thought to have tubercle; and Dr. Clouston, of the Carlisle Asylum, who has described a suspicious melancholia as phthisical insanity, found hereditary predisposition to exist in 7 per cent. more of the cases of insanity with tubercle than of the insane generally. If you watch the decay of a family which is gradually dying out, you will, I think, be struck, as I have been, with the frequent occurrence of insanity and phthisis, marking the degeneration that is going on; and when the extinction of the family takes place, when the last member dies, how often he dies phthisical or tuberculous, or both? Passing by any conjectural explanation of the close relations between these diseases, the diseases pre-eminently of degeneration, it will

suffice here to say, what may, I think, be safely said, that those ill-conditions of life which produce deterioration of the mental and bodily health, though they may not cause insanity or phthisis directly, will not fail to predispose in some degree to these diseases in the next generation; determining in the present what shall be predetermined in the future.

I have long had a conviction that one, and certainly not the least, of the ill effects arising out of the conditions of modern society is to be found in the general dread, I had almost said contempt, of poverty, and in the eager absorbing passion to become rich. The practical gospel of the age, as testified everywhere by faith and works, is that of money-getting; men are estimated mainly by the amount of their wealth, take social rank accordingly, and consequently bend all their energies to acquire that which gains them esteem and influence. The result is that in the higher departments of trade and commerce speculations of all sorts are eagerly entered upon, and that many people are kept in a continued state of excitement and anxiety by the fluctuations of the money-market and the variations of trade. In the lower branches of trade there is the same eager desire for petty gains, and the continued absorption of the mind in these small acquisitions is apt to generate a littleness of mind and a selfishness and meanness of spirit, where it does not lead to actual dishonesty, which are displayed in a pitiable form by some of our London tradesmen. The occupation which a man is entirely engaged in, and the spirit in which he follows it, do not fail to modify his character, and the reaction upon the individual nature of a life which is spent with the sole aim of getting rich—honestly if it may be, but if not, still of getting rich—is extremely baneful. But the evil does not end there; the deterioration of nature which the parent has acquired is likely enough to be transmitted as an evil heritage to his children, who, continuing the degeneracy, exhibit its effects in a more marked form, perhaps in positive insanity, or in vice bordering closely upon it. In some striking instances in which the father has toiled up from poverty and a low estate to vast wealth, with the aim and hope of founding a family, I have thought myself able to trace the results in a degeneracy, mental and physical, of the offspring, which has sometimes gone as far as extinction of the family in the third or fourth generation. I call to mind, as one striking illustration out of others that I could adduce, the case of one of the partners in a great manufacturing firm. He had been a common porter in the establishment, and had steadily worked his way up till he became a partner, and was possessed of immense wealth, but he never had any cultivation whatever, and remained the uneducated person he had been as a porter, with but one narrow aim and one employment in life—to get rich, and to transmit his riches to his children. He had two daughters, who by help of their

wealth were married into a higher sphere than he ever occupied; both of them were of selfish, singularly penurious, even miserly, dispositions, and lived to old age. One was childless, and lived separated from her husband; the other had three sons, two of whom died in early manhood, mentally afflicted. The third was for some time under my care, hopelessly demented and phthisical. Thus miserably have ended the hopes and aim and labours of one who toiled hard through life, taking little rest, in order to lay the foundations of a family on the shifting sands which mocked his toil. When the evil is not so extreme as madness, the savour of a mother's influence having, perhaps, been present, it may still be manifest in a vitiated nature in the offspring, displaying itself in extreme selfishness, cunning, and duplicity, and in some cases going as far as a real moral idiocy. I have been so strongly impressed with the truth of this that I should hold it positively safer for any one, as regards the health of the children which he may have, to marry the daughter of an insane person than to marry the daughter of one who has lived a life of hard selfishness, without thought or care of others, who has, in fact, entirely suppressed the moral element in his nature. It was this avenging law, by which guilt brings after it its punishment on earth, and the children expiate the sins or errors of the parents, that, under the name of fate or destiny, often played so great and grand a part in Grecian tragedy; and when the prophetic writers of the Bible are read in a natural sense it cannot fail to be seen what a stress they laid upon the "confidence of a good descent." It was a proverb in Israel—"The fathers have eaten sour grapes, and the children's teeth are set on edge."

Time would not allow me to enumerate all the causes which arise out of the complex relations of modern society, and seem to favour the increase of insanity. I might, indeed, broadly say that all evil habits of life—habits of luxurious effeminacy, of indolence, and of excess in the indulgence of any appetite—as well as all unfavorable external conditions of life which deteriorate the mental and bodily health of individuals, are so far predisposing causes of the degeneracy of the race which individuals constitute. We are quite alive to the fact that cretinism is produced in the valleys of the Alps and other places by bad air or bad water, or both; but we do not sufficiently consider that our present civilisation has its cretins. And yet the sort of men whom Leech used often to portray in 'Punch,' the elaborately dressed beings with small heads, foreheads sloping backwards, projecting nose and upper maxilla, and small receding chins, have been seriously, and with some reason, described as "luxury cretins," or "spoonbill imbeciles," and have been said to mark an early stage of that type of degradation of which the Aztec face is the extreme example. Whether this be so or not, they undoubtedly represent a certain measure of imbecility; and to expect sound and

vigorous offspring from them would be hardly less vain than it would be to look for grapes on thorns or figs on thistles.

The question of *religion* as an agency influencing in a powerful manner the minds of men for good or evil, and therefore predisposing or not to mental degeneracy, I must leave untouched, not only because of the difficulty and delicacy of the subject, but because of the impossibility of doing justice to so important a matter in a brief and incidental manner. If the task were attempted it would be necessary to consider the effect of the religious creed professed on the thoughts, feelings, and conduct of men—in other words, on the intellect, the emotions, and the will. It has been said by no less a person than Emerson that as men's creed mark a disease of the intellect, so their prayers mark a disease of the will. Now, without giving in our adhesion to that opinion, it would be permissible, and indeed desirable, soberly to attempt to estimate the influence of religious belief upon the common mind; and this might, perhaps, best be done by systematically discussing three principal questions—first, what influence a belief in the supernatural has upon the growth and progress of human thought—whether its natural tendency is to strengthen or to enervate the intellect? Secondly, what is the practical effect worked on the hearts of men by the fear of punishment and the hope of reward after death—whether their feelings and desires are beneficially influenced, or influenced at all, by possibilities which always seem so far off; or whether, on the other hand, as some argue, their feelings are deadened and themselves blinded thereby to the certain laws by which their sins or errors are always avenged in this world on themselves or on others? And lastly, what is the practical effect produced on the character of the many by the belief that through prayer they may obviate the effects of their own want of foresight or want of self-renunciation, and may rely on supernatural aid where the will fails; also, what is the effect on their character of the profession of a belief in moral maxims and precepts which they cannot always reconcile with the exigencies of actual life—whether the natural tendency of these beliefs is to fortify the will and to fashion a strong character well qualified for the consistent conduct of life? According to the way in which these questions are answered will be the answer to the question whether the religious creed of a nation, as entertained by the masses, predisposes or not to mental degeneracy.

Without attempting any answer now, I shall go on to speak of that which has the first place as a cause of insanity—I mean hereditary predisposition. What I have said hitherto may, I fear, be thought to be vague, general, and little adapted for a medical meeting; but I cannot help thinking that diseases generally, in regard to their causation, stand in need of wider consideration than

we have been in the habit of giving them, and that this is especially true of insanity, which might almost be called *the social disease*.

Hereditary predisposition.—The proportion of cases in which this is detectable has been put by some authors, by Moreau de Tours, for example, as high as nine tenths, by others as low as one tenth. The most careful researches agree to fix it at not lower than one fourth, if not as high as one half. Of fifty insane persons, taken without any selection, whose histories I traced carefully, there was strongly marked hereditary predisposition, that is, there was the positive evidence of an inherited predisposition to insanity, in fourteen cases; while in ten more there was sufficient evidence of some inborn infirmity or instability of nervous element—an infirmity not due to actual insanity in the immediate ancestors, but *acquired* or produced in them by degenerative influences at work. Thus, in a little more than one fourth of these people there was marked hereditary predisposition, and in half of them there was detectable some hereditary taint.

Two important considerations should have full weight given them—first, that the native infirmity or taint may be of very different degrees of intensity, so as, on the one hand, to conspire only with certain more or less powerful exciting causes, or, on the other hand, to give rise to insanity even amidst the most favorable external circumstances; and, secondly, that not insanity only in the parents, but any form of nervous disease in them—epilepsy, hysteria, and even neuralgia—may predispose to insanity in the offspring, as, conversely, insanity in the patient may predispose to other kinds of nervous disease in the offspring. Epilepsy in the parent may become insanity in the child, or insanity in the parent become epilepsy in the child; and chorea or convulsions in the child may be the consequence of great nervous excitability, natural or accidental, in the mother. In families in which there is a strong predisposition to insanity it is not uncommon to find one member afflicted with one form of nervous disease, another with another; one may suffer from epilepsy, another from neuralgia or hysteria, a third may commit suicide, and a fourth may be maniacal. General paralysis is usually the result of continued excesses of one sort or another, but it may unquestionably occur without any marked excesses, and when it does so there will mostly be discoverable an hereditary taint in the patient.

M. Morel, of Rouen, has made some excellent studies of the way in which causes that give rise to mental degeneracy in individuals, that produce, in fact, what he calls *morbid varieties* of the race, continue their operation through generations, if not checked, and finally issue in the extinction of the family. When some of the evil influences which notably produce individual degeneracy, such as the poisoned atmosphere of a marshy district, or the endemic causes of

cretinism, or the overcrowding and starvation of our large towns, or persistent intemperance of any kind, or frequent intermarriages in families, which I hold to be no doubtful cause, or any other of the sources of human degeneracy—when any of these have engendered a morbid variety of man, such as a madman is, the evil will, unless counteracted by better influences brought to bear, increase through generations, until the degeneration has gone so far that the continuance of the species is impossible. In fact, insanity, whatever form it takes, is but a stage in the descent towards sterile idiocy. This you might prove experimentally by intermarrying persons mentally unsound for a few generations; and, in fact, it is sometimes demonstrated to us experimentally by the results of frequent intermarriages in foolish families. I call to mind the elder branch of an ancient county family, untitled, but prouder of its simple squirehood than the younger branch of its title; it has for generations married only with the members of another great family in the same county. What is the result now? The present representative has three sons, one of whom is deaf and dumb, another epileptic and nearly imbecile, and the other scrofulous and feeble in mind and body. The next generation will doubtless witness the extinction of this proud and ancient line.

Morel adduces the history of one family which we may take as a typical example of the course of degeneracy proceeding unchecked. It may be briefly summed up thus:

First generation.—Alcoholic excess. Immorality. Mental degradation.

Second generation.—Hereditary drunkenness. Attacks of maniacal excitement. General paralysis.

Third generation.—Sobriety. Hypochondria. Melancholia. Systematic mania. Homicidal tendencies.

Fourth generation.—Feeble intelligence. Stupidity. First attack of mania at sixteen. Transition to complete idiocy, and probable extinction of the family.

Thus we see how sure a provision is made for the extinction of degenerate varieties; nature puts the ban of sterility on the morbid type, and thus manifests her resolve that man shall not continue a lower kind. We might in this regard fairly compare the social fabric with the bodily organism; as in bodily disease there is a retrograde metamorphosis of formative action, and morbid elements are produced, so in the appearance of insanity in individuals we have a degeneration of the human kind, and morbid kinds formed. And as in the body morbid elements cannot minister to healthy action, but, if not got rid of, give rise to disorder, and even death, so in the social fabric morbid varieties cannot take their part in the system, are themselves on the way to death, and, if not sequestered in the social system or extruded from it, would engender disorder incom-

patible with its stability. But, however much man may degenerate, he never really reverts to the type of any animal, though he may sometimes become very like his next of kin, the monkeys: the so-called *theroid* degeneration spoken of by some writers signifies no more than a resemblance to some animals; lunatics and idiots represent new morbid kinds; the mighty are fallen, but the might is manifest even in the wrecks.

When we reflect upon these facts, proving the power and extent of hereditary action, both in health and disease, in the formation of a sound and of an unsound constitution, we cannot fail to be convinced that there is no heritage like the heritage of a good descent, and cannot help feeling some regret that while we pay so much attention to the breeding of animals we pay so little attention to the breeding of men.

I shall now, before concluding, briefly touch upon some of the principal exciting causes of insanity, taking for illustration the remaining twenty-six of the fifty cases into which I particularly examined. In any fifty cases of insanity taken at random, the same causes would probably be found to operate, and nearly in the same proportion.

Exciting causes.—I find that *intemperance* was the clear cause of the mental disease in three cases; while in four cases more the cause was equally clearly intemperance, together with great *sexual excesses*. This accords with general experience, which rightly assigns intemperance the first place amongst the physical causes of insanity. There is a vulgar notion prevalent, one which I believe to have not seldom been the cause of grievous injustice being done in our courts of justice, that if a man is said to be made mad by drinking, he is only "mad drunk," as it is called, for a time, or at most has an attack of delirium tremens. Now it is important to bear in mind that a continued intemperance does in some instances produce a true mania, of an acute and violent type, having nothing of the character of delirium tremens about it; nay, more, that the effect of a single debauch in one who has an hereditary predisposition to insanity, or who has suffered at some time from an injury to the head, or who has had a previous attack of insanity, may be to produce a genuine insanity of a transitory nature—a condition during which vivid hallucinations may arise, and the sufferer commit crime, quite unconscious of the nature of his act at the time, and hardly remembering it afterwards. About a year ago I was asked to examine, in gaol, a respectable builder who was undergoing sentence for rape committed on his servant girl, under fourteen years of age; and I was never more convinced of anything in my life than I was of the truth of that man's statement, that he remembered nothing whatever of the crime. He had for some time previously heard voices which had no existence speaking to him, and for some days

before the crime had been continuously drinking; he still heard those voices in his cell, and was plainly, as every one perceived, of unsound mind. I should not have cared to attempt to convince some of our present judges of his real state at the trial, for it is not improbable that, mistaking their sympathy with vulgar prejudices for the dictates of common sense, they might have thought it not unbecoming the dignity and shelter of their office to dismiss my evidence with the advocate's sneer.

In one case *sexual excess* by itself was the evident cause of mental derangement in a young man, of sober and exemplary life, who had been married about a year. It is singular how ignorant many people are of the fact that the marriage service does not obviate the necessity of self-restraint, or preclude the possibility of evil consequences from excessive sexual indulgence.

Self-abuse was the cause of the mental derangement in two men. It is a cause which often gives rise to a particularly disagreeable form of insanity, characterised by great self-feeling and conceit—for nearly always the more degraded a man is, the more he esteems himself—and profound moral disturbance in the earlier stages, and, later on, by melancholic depression, failure of intelligence, nocturnal hallucinations, and sometimes homicidal and suicidal propensities.

In two cases *epilepsy* was associated with the insanity. In one, long-continued epilepsy had produced dementia, as its habit is; in the other, an attack of acute and violent mania, lasting for a few days, was followed by a heavy, stertorous sleep, the patient, a young surgeon, waking up seemingly quite well, but after a few hours being attacked with several severe epileptic fits, followed again by mania. Here, then, I take occasion to point out that not only may acute mania follow epilepsy, but that an attack of acute mania may take the place of, or be, so to speak, vicarious of an attack of epilepsy—representing, in fact, a masked epilepsy. Furthermore, in some cases a profound moral disturbance, lasting for months, with periodical exacerbations in which vicious or criminal acts may be perpetrated, precedes the appearance of the regular epileptic fits: it represents, indeed, a masked or suppressed epilepsy. We perceive, then, one reason why epilepsy exists in much larger proportion, as it unquestionably does, among prisoners than in the rest of the population.

In two cases the insanity occurred after *childbirth*; in one, two months after; in the other, so soon after that the woman was never aware, till she recovered, that she had had a child. Puerperal insanity, in fact, occurs at or after childbirth: during the agony of delivery there may be an acute frenzy, in which the child may sometimes be killed; or insanity occurs a few days after delivery, some have thought from blood-poisoning; or, lastly, it comes on from a few weeks to a few months after delivery, and is then seemingly

due to the exhaustion produced by lactation, in conjunction often with depressing moral influences.

In one case the insanity came on after an *acute fever*, called "gastric," probably typhoid; and in another case, after acute rheumatism. We ought always to be alive to the fact that, during the decline of acute diseases, as typhus and typhoid fevers, the acute exanthemata, acute rheumatism, and pneumonia, a mental disorder quite distinct from the delirium which sometimes occurs during the height of fever may come on. I have known a woman hastily sent to an asylum under these circumstances, to recover in a few days, to the consternation of everybody concerned in sending her. The disease so occurring may take the form of the delirium of nervous exhaustion, from which recovery commonly takes place in a few days; or it may steadily pass into a chronic and persistent form, especially if there be hereditary taint; or it may be very acute, recovery taking place for a time, but, as happens after injury to the head, being followed by subsequent change of temper and chronic insanity.

In one case mental derangement preceded for some months, as it sometimes does, *softening of the brain*. An old man, the respected deacon of a chapel, was found to be keeping a mistress in secret, and doing other foolish things which evinced a morbid mental exaltation forerunning mental extinction.

Though there was no example of *injury of the head* amongst my cases, yet this should not be overlooked as a physical cause of insanity. Schlager, of Vienna, found insanity to be directly dependent on injury or shock to the brain in 49 out of 500 insane. In 21 cases there was complete unconsciousness at the time of the injury; in 16, some insensibility and confusion of ideas; and in 12, only a dull, heavy headache. In 19 cases, the mental disorder began to come on within the year; much later in many others; and in 4 cases, after more than ten years. This is an important cause in regard to the question of the remote effects of railway accidents. I dare say that railway companies have occasionally been imposed upon, but I am quite sure that if a person begins to suffer with severe nervous symptoms some time after the sort of shock which a railway accident gives to the nervous system, no amount of money will compensate him, for the disease will of a certainty go on from bad to worse.

I have now disposed of seventeen out of the twenty-six cases which I began with. The remaining nine were produced by what are called moral causes. In four of them the insanity seemed to be gradually developed as the result of a particular character in certain circumstances of life, all that one could say of one of them was, that a person who seemed to have been all his life preparing to go mad had at last succeeded in overstepping the line; in the three other

cases, single women, over thirty years of age, having nothing to live for, took violently to excessive religious devotion, the consummation of which, unhappily, was insanity. We may take notice here, that when one of the exalted passions, as pride, ambition, religious exaltation, vanity in any of its Protean forms, produces insanity, it does not, like a great moral shock, act as the direct cause of an outbreak, but it produces its effect by degrees as an exaggeration of a certain peculiarity or vice of character. In such case, therefore, there is very small hope of recovery.

In the last five cases, the insanity was directly due to moral causes. In one woman the accumulated force of long-continued anxieties destroyed the mental equilibrium when the change of life took place; in another, a young lady, disappointed affection was followed by suppression of the menses and acute dementia; and in a third, the sudden loss of her son was the occasion of an outbreak. One woman became insane immediately after attending a revival meeting; and another was driven mad by listening to a violent and exciting sermon in a Methodist chapel.

Great intellectual activity, when unaccompanied by emotion, does not often lead to insanity; it is when the feelings are deeply engaged, when the mind is the theatre of great passions, that it is most moved, and its stability endangered: the old term *commotion*, used to describe emotional agitation, truly expressed the internal condition of things. It may be justly said, that it is not the work which a man does that makes him mad, but the work which he cannot do: indeed, one of the causes which most surely break a person down is the painful feeling of being unequal to the responsibilities of his position.

It will easily be understood that physical conditions often co-operate with causes that appear to be simply moral. Continued moral depression notably leads to organic disturbance; and, on the other hand, organic disorder, depressing the health, inclines a person to become emotional, and to feel deeply impressions which would glide harmlessly by in health. In fact, though we conveniently separate in thought the moral and the physical by a mental artifice, in nature they are indissolubly bound together as equally essential elements in every human thought, feeling, and act. And I may properly end these incomplete remarks by saying, that it is only by taking this just principle to guide our inquiries that we can hope to acquire true conceptions of the nature and the causes of insanity, and to lay the foundations of a true physiology and pathology of the mind.

The Pathology of Aphasia. By ALEXANDER ROBERTSON, M.D.,
Physician to the Town's Hospital and City Parochial Lunatic
Asylum, Glasgow.

(*Read at the Annual Meeting of the Medico-Psychological Association held at
Edinburgh, July 31, 1866.*)

To the students of mind in its healthy as well as in its diseased condition, the doctrine that certain portions of the brain are associated with particular mental powers is necessarily one of engrossing interest. Until lately, however, the facts advanced in support of the existence of this association have been so inadequate, that the majority of thinkers have regarded the doctrine itself, maintained as it has been with so much zeal by Gall and his followers, to be little more than a theory, no doubt probable enough, but deficient in that solid basis of proof which alone could warrant its acceptance on any higher ground. But it has recently been confidently asserted that evidence is at last forthcoming that the organ of one faculty, the faculty of articulate language, has now been discovered. Still, the alleged discovery, though it were established, would give only qualified support to the phrenological view just referred to, as, contrary to all preconceived notions derived from the bilateral symmetry of the brain, the supposed organ is declared to be situated on its left side alone. Conclusions of so weighty moment evidently require that the validity of their premises should be thoroughly tested; and it is in the hope that I may be able in some degree to show how far they are trustworthy, that I have ventured to bring the facts and considerations embodied in the following paper under the notice of this Society.

It is my desire to adhere as far as possible to the department of the subject which I have selected, and I must, therefore, refer those who wish fuller information to the writings of many able observers published in the medical periodicals and more systematic works. I would especially mention the communications of Dr. Hughlings Jackson of the London Hospital, Dr. W. T. Gairdner of Glasgow, Dr. Sanders of Edinburgh, the clinical lectures of Trousseau lately translated, besides the articles in the French journals, of which an excellent abstract, as far as its date, will be found in the 'Journal de Médecine Mentale,' of September and October of last year.

In order to the better understanding of the view of the aphasic lesion which I am about to submit, it is necessary that I should shortly describe three cases which have recently been under my care. Full reports of all the symptoms were taken by myself at the bed-sides of the patients; but those points only will be stated which

by-and-by will be seen to have some bearing on the nature of the pathological condition.

CASE 1.—Ann Darroch, æt. 28, married. Admitted into hospital 21st of last March. From information derived from her friends, it appears that she lost the power of speech suddenly, about fifteen months before admission, and from the first has been all but completely unable to express her ideas in language. Lately she has improved a little; but even yet, as we found on examination, she can only articulate the following words and short phrases, viz.: “No”—“Yes”—“Oh yes”—“Faither”—“Aiton” (her first husband’s name); and, “I don’t think.” “Yes” and “no” she apparently uses correctly in reply to questions; but it was often noticed that she failed in the attempt to articulate any of these words when her attention was distinctly directed to their pronunciation. Thus, I desired her to say “yes.” She tried repeatedly, but was unable to utter any intelligible sound. I then remarked, “You said ‘yes’ a little ago.” She smiled, and answered easily, “Oh yes.” I asked her again to say “yes:” after some attempts, ejaculated “Faither” Was next tried with “June:” made several attempts, but always said “Aiton.” Many other words were proposed: generally she did not try to pronounce them, seemingly conscious of her inability; or, if an effort were made, it was either quite unsuccessful, which was usually the case, or one or other of her stock words was uttered. When the latter occurred, judging from the expression of annoyance on her face and her gestures, she was evidently fully aware that she had not complied with my wishes.

With the view of ascertaining as completely as possible the condition of her mental powers, I questioned her frequently on a variety of subjects; and the following conversation is given in illustration:—“How old are you?” No reply. “More than twenty?” “Yes.” “More than twenty-five?” “Yes.” “How much?” Held up three fingers, making twenty-eight, really her correct age. “How many more than twenty-three?” Held up five fingers. “Than twenty-four?” Held up four. “Suppose,” I said, “you got articles in a shop to the value of eightpence; how many pence would you bring back out of a shilling?” four fingers were held up. “If the house were on fire, what would you do?” Moved towards the door, and indicated very clearly that she would run out. “Show me what you would do if that bed were on fire?” pointing to one at hand. Went to the end of the ward, lifted a basin of water off the table, and brought it to where I was standing, at the same time making signs that she would pour the contents on the bed. “Suppose you were walking along the street, and some one were to steal your shawl from your shoulders; what would you do?” Looked eagerly and somewhat excitedly, and at length to my astonishment, ejaculated “Police!” On saying so, her face bore the expression of great satisfaction.

At another examination, the nurse who was standing by said, “Doctor, though she canna speak, she’s grand at swearing when anything puts her about.” And, on inquiry, I was told that if annoyed by any trifling circumstance, the patient not unfrequently gave vent to two or three stock oaths. Several times I asked, “Why do you not speak?” Shook her head and pointed to her teeth. “Do you know what to say?” Answer, “Yes.” “Can you read?” To my great surprise, replied, “Every word.” This phrase, only once uttered, and “I don’t think,” were the nearest approaches to sentences during her entire stay in the hospital. At my request, turned up the 3rd chapter of Luke and the 10th of Exodus without mistake, showing that at least so far she understood what she read.

Her general conduct in the ward was quite rational. She assisted the nurse in sweeping the room, arranging the beds, and in attending to the sick. However, was very variable in her temper, being easily irritated by

trifles. Indeed, notwithstanding the rational character of her actions, the general impression left on the minds of myself and others was that her mind was weak and childish.

On admission, she walked well, and moved both hands and arms freely, so that I thought at first there was no hemiplegic complication, which so usually accompanies the aphasic condition; but, on examination, it was very evident that she could not grasp so firmly with the right hand as with the left, and I afterwards ascertained that before admission she had dragged the right leg slightly in walking. Her voice was clear and distinct; moved the tongue with perfect freedom in all directions; swallowed without difficulty; and there was no stuttering in the articulation of her small vocabulary. Left the establishment in the beginning of May of her own accord; and it was remarked that she showed considerable determination in leaving, as others besides myself urged her strongly to remain for a few weeks longer.

CASE 2.—Mary Kelly, æt. 47, millworker,* Is aphasic and hemiplegic on the right side, and has been so for upwards of nineteen years. Both lesions occurred simultaneously, and were very complete from the beginning. For several years was constantly confined to bed, and could only articulate the words "Dear, dear;" but gradually the power of the lower extremity was partially recovered, and for ten years she has been able to take walking exercise, though she still drags the right leg considerably. The right arm is wasted, and its flexors contracted. At present can say, "Dear, dear!"—"Ay"—"Oh ay," and "No." These words she uses relevantly and apparently always with judgment, and has never any difficulty in their expression. Moves the tongue freely in all directions. Is able to gesticulate, and the varying expressions of her countenance are very significant. Her pronunciation is distinct; can sing; and, at my request, hummed over an old Scotch air; of course, without words. Nurse says that patient often sings the baby asleep. Is sensible and correct in her conduct. Makes herself generally useful. Knows all around her, and, judging by her actions, she can comprehend questions and observations both clearly and quickly. Thus, on asking her to go to another ward and bring two women, simply naming them, she went at once and brought them to me.

The following are a few of the questions addressed to her, with their answers: "What would you do, supposing any one were to attempt to steal your basket from you in the street?" Laughed, clenched her left fist and shook it, showing most unmistakeably that she would defend her property. "If the nurse's arm were bleeding, and no one were present but yourself, what would you do?" Thought for a little, then went up to the nurse and began to wrap a piece of cloth round the arm, meanwhile making signs that the bleeding would be checked by that means. In the early part of the present month, being about ten weeks after the conversation just detailed, no reference having been made to the subject in the interval, I said, "Do you remember the questions I put to you in the month of April? Just show me what you did?" Considered for a little, went to the nurse, caught her arm firmly, and made signs that that was one of the points referred to. "Anything else?" Took a basin of water, went towards an adjoining bedroom, at the same time indicating that I had asked her what she should do in the event of the bed being on fire,—which was correct, as I did put that question to her. "Why do you not speak?" I said. She smiled sorrowfully, and touched her tongue with the left forefinger. "Do you know quite well what to say?" Replied earnestly, "Oh ay!" "Suppose your arm were broken, to whom would you apply?"

* I may remark that I showed this person to Sir James Coxe, on the occasion of his official visit to the City Parochial Asylum, in the month of April.

Pointed laughingly to me. "If you considered yourself dying, what would you do?" Smiled again and pointed to me. "But," I added, "I refer to your soul." She shook her head slowly, and looked devoutly upwards. Communicates her age, intervals of time, and money transactions by her fingers, rarely making a mistake. Unfortunately, was never taught to read or write, so that the state of her mental powers cannot be tested by those means.

CASE 3.—James Wright, æt. 47, has suffered from right hemiplegia with defect in language since August, 1864. Was admitted under my care on the 7th January, 1865. The following is his condition at this date, June 30th, 1866 :—The motor lesion is nearly complete in the arm, and is likewise severe in the leg, as even yet, though there is some improvement, he is unable to stand or get out of bed without assistance. The aphasia during the first year of his residence was so great that he could only say "yes" and "no;" but in the course of the last six months his power of expression has been gradually improving, so that he can now articulate a good many words, and is able, though with some difficulty, to carry on a short conversation. However, he still frequently fails to utter the words he wishes to express in order to convey his meaning. Thus, I asked him, "When was your brother here?" Thought a little; then said, "Two months." Shook his head,—"Twelve months;" again shook his head. "Six weeks, that's it now;" the last reply being really correct. It is evident that he knew quite well what to say, but that somehow, against his will, the wrong words were uttered. I found that very often he could not articulate the word "months," even when it was repeated several times in his hearing; in his attempts, not unfrequently said "weeks," but generally succeeded after several efforts. He was asked to read short devotional sentences printed in large characters, but could only make out, and with some difficulty, two or three monosyllabic words. It was also clear that he could not understand their import. Previously he had received an ordinary education for his position in life, *i. e.* he had been taught reading, writing, and arithmetic. His mental faculties are generally very weak, much more so than either of the two patients whose cases have just been described. But it is manifest that attention, perception, and memory have existed from about the beginning of his illness in some degree; for though he has now been resident for more than a year, when he is questioned he replies correctly in regard to some of the ward arrangements of the Royal Infirmary in Glasgow, to which he was taken immediately after the paralytic seizure, and also alludes to circumstances which occurred some months ago in this hospital. His aspect suggests the idea of great mental weakness, even in a greater degree now than a year since, when the aphasia was much more decided. From slight causes he is very apt to laugh and to weep, especially the former.

In investigating these three cases my inquiries were framed so as to ascertain as correctly as possible the condition of the mental powers generally, but more especially that of the reasoning faculty. In the first two, the ready obedience to orders and the prompt attempt to answer questions in their own way distinctly proved that attention and perception were little if at all impaired. In Case 3 they were unquestionably enfeebled. I have also shown, particularly in regard to the woman Kelly, that at least the general faculty of memory was good. In the other two, and also in most of the published cases, its presence is also equally clear. It is, however, chiefly to the evidences of the reasoning power that I wish to direct attention, as

positive proofs of its existence are of great importance in solving the question of the presence or absence of language in the minds of aphasics.* In this relation the method I adopted of testing the condition of that faculty by a consideration of the acts which the patients performed as replies to definite questions, is, I think, of considerable value. All the actions of aphasics are by no means of equal importance in this aspect. The majority are probably to a considerable extent automatic in their nature, or, at least, do not necessarily imply the exercise of reason or judgment; but it is different with respect to some of the actions of the women Kelly and Darroch which I have just mentioned. It was stated that they were requested to show me what they would do in certain supposed circumstances. As no assistance was given to guide them to the course they adopted, before they could arrive at the conclusions evidenced in the acts in question, it must, I think, be admitted that processes of reasoning were carried out in their minds. It is highly important that this point should be fully established, and I have, therefore, turned some of the implied arguments into the syllogistic form. It will be remembered—1st, when Kelly was asked what she would do if the nurse's arm were bleeding, that she began to bind it up firmly with a cloth. We have here first the apprehension of the problem by her mind; then follows the syllogism—

All bleeding wounds ought to be bandaged: this is a bleeding wound: therefore it ought to be bandaged.

2nd. When Darroch was asked what would be her course if the bed were on fire, she indicated that she would pour water on it. The process now is—

All fires are extinguished by water: this is a fire: therefore it will be extinguished by water.

3rd. When Kelly was asked how she would act if any one tried to steal her shawl, she shook her clenched fist very significantly. The reasoning in this instance is probably as follows:—

I have a right to defend all my property: this person would seek to rob me of a portion: therefore I have a right to resist him.

It is not necessary to carry this analysis farther, as these illustrations will probably suffice to prove that sufferers from aphasia are capable of reasoning correctly.

We have thus brought out prominently that the powers of atten-

* By the term *reasoning*, I mean the discursive faculty we possess of deducing conclusions from premises, distinguishing it from the more comprehensive powers which *reason* is understood to imply. Dugald Stewart remarks that this distinction has not always been clearly kept in view by metaphysicians.—*Philosophy of the Human Mind*, p. 288.

tion, perception, memory, and the reasoning faculty are possessed by Darroch, but more especially by Kelly. From long observation of her actions, I regard the latter as a person of average intelligence, sensible and prudent in all her conduct. In both we have also seen that the will was little, if at all, impaired; the emotional powers had not suffered except to a slight extent in Darroch. In Wright, however, the intellect, the emotions, and the will are all seriously involved; it would be difficult to say which is affected in the greatest degree.

The very interesting fact of the ejaculation of words and even short sentences under emotion was strikingly exemplified in Darroch. To Dr. Hughlings Jackson is specially due the credit of having first pointed out this peculiar feature in some aphasics, and of having established the distinction between intellectual and emotional language in these cases.

It will be afterwards shown to be of moment in our inquiries into the nature of the aphasic condition, that I should state to what extent the mind is implicated in ordinary hemiplegia without aphasia. In the course of last year I examined carefully the symptoms, both psychical and somatic, in forty non-aphasic hemiplegics who were under my care. The duration of the paralysis varied from a few days to many years; in degree a few were but slightly affected, but the great majority had either entirely lost the power of the extremities of one side, or could use them only to a very limited extent. With respect to their mental condition, twenty-six said that memory was greatly, in many cases very greatly enfeebled since the shock; the other fourteen thought it was little, if at all, affected. In thirty the perceptive faculty had not suffered materially, judging from the ready apprehension of questions in regard to everyday life; the remaining ten were slow, dull, and easily confused. The reasoning power was not tested in the way I have spoken of, but it was my impression, both from their conversation and their actions, that it was feeble in most of the cases, even more so than the patients themselves were aware of, or were willing to admit. In five cases the emotional powers were not appreciably weakened, though three of these suffered from severe motor lesion; in three others the enfeeblement was slight; in fifteen considerable; and in seventeen extreme. Many of those last referred to, both males and females, could scarcely answer the simplest question without at the same time shedding tears. In five instances there was a disposition to laugh immoderately from slight and insufficient causes; and in ten the two tendencies were combined, the patients laughing and weeping after the most childish fashion. In those instances where the emotional powers were weak, the will was also feeble, the majority being very infirm of purpose. To sum up, we have seen that in cases of simple hemiplegia, *i. e.* hemiplegia without loss of articulate language, the faculties of the mind generally suffer in a greater or

less degree, and especially that memory, the reasoning faculty, the emotional powers, and will are all involved.

At the outset of this paper, reference was made to the opinion that aphasia depended on injury to a special organ, which has been called the organ of articulate language, and is believed to be situated in or near the external frontal convolution of the left hemisphere of the brain. Last year, in the course of a discussion on the subject at the French Academy of Medicine, this view was both opposed and defended with much ability. Baillarger, the distinguished alienist physician, while rather adhering to the localisation theory, also held that in its nature aphasia consisted in the loss of the memory of the movements necessary for articulate language, and sought to establish a distinction between that form of recollection and the memory of words or of writing. Trousseau, who took a prominent part in the proceedings, has entered into the question very fully in the clinical lecture lately translated. He there states, "In aphasia, therefore, there is not merely loss of speech, but there is also impairment of the understanding. But he has not lost all these faculties in an equal degree, for the understanding is less injured than the memory of the acts for producing words, and this latter faculty less impaired than that of remembering words."*

It seems to me that much light is thrown on the subject by considering the views entertained by metaphysicians and philologists on the association of thought and language. Thus Mill, in his 'Analysis of the Human Mind, says†

"In all the more complicated cases of human consciousness, something of the process of naming is involved." Again,‡ "A word is pronounced in conjunction with an idea; it is pronounced again and again; and, by degrees, the idea and the word become so associated, that the one can never occur without the other." "We§ are also to remember that the idea and the name have a mutual power over one another: as the word 'black' calls up the complex idea, so every modification of black calls up the name; and in this, as in other cases, the name actually forms a *part* of the complex idea." Max Müller, in his remarkable work lately published on 'The Science of Language,' says||—"I therefore declare my conviction, whether right or wrong, as explicitly as possible, that thought in one sense of the word, *i. e.* in the sense of reasoning, is impossible without language."

Schelling says,¶ "Without language it is impossible to conceive any philosophical—nay, even any human consciousness." Hegel observes,** "It is in names that we think." Dugald Stewart re-

* 'Lectures on Clinical Medicine,' by A. Trousseau; translated by P. Victor Bazire, M.D.; p. 273.

† 'Analysis of the Phenomena of the Human Mind,' vol. i, p. 84.

‡ Ibid., p. 202.

§ Ibid., p. 218.

|| 'Lectures on the Science of Language,' by Max Müller, M.A., 2nd series, p. 62.

¶ Quoted by Max Müller, *ibid.*, p. 72.

** Ibid., p. 73.

marks, "In treating of abstraction, I endeavoured to show that we think as well as speak by means of words." The last-mentioned writer also quotes from Des Cartes as follows: "And lastly, in consequence of the habitual use of speech, all our ideas become associated with the words in which we express them; nor do we ever commit them to memory without their accustomed signs." Trousseau, in the lecture above alluded to, expresses his concurrence in this view. He says,* "I incline to the opinion advocated by Condillac and Warburton, that words are necessary—nay, indispensable instruments of thought." If, then, we concur in this doctrine of the intimate and necessary union of thought and language, supported as it is by so great a weight of authority, it follows, if it can be shown that thought, at least thought in the sense of reasoning, is carried on in the minds of aphasics, that words are likewise present at the same time. It is hoped that sufficient evidence has been brought forward to prove that the patients under my care, especially the two women, reason correctly; and I am satisfied that an impartial consideration of the records which have been published by physicians in the medical journals both in this country and in France will convince that, as a rule, in their patients also the power to reason was retained more or less completely, even though in many instances the results of examination in this aspect are not so conclusive as could have been wished. By way of corroboration, let me refer to the experience and opinions of three well-known observers. Trousseau† enters very fully into the case of M. A., a gentleman aged 58, aphasic, and only able to say "Yes." Amongst other proofs of his intelligence, he states, "Although his son manages all his affairs, he insists on being consulted about the leases, contracts, &c.; and the son states to me, that the father shows perfectly well by gestures, which are understood by those habitually around him, when certain portions of the deeds do not please him, and that he is not satisfied until alterations are made, which are, as a rule, useful and reasonable." Dr. Gairdner says,‡ "It is evident in many of these cases that the mind is at least so far unaffected as to permit of the exercise of all its ordinary active functions to a certain extent, and there is no direct proof of even seriously impaired intelligence; while it is equally plain, that all the ordinary emotions and voluntary acts, with the single exception of those implicated in the expression of the thoughts in words, are performed without much difficulty, and often in a perfectly normal manner." Dr. Sanders,§ in his account of a case of aphasia, remarks, "From the completeness of the loss of speech, it was

* 'Lectures on Clinical Medicine,' by A. Trousseau; translated by P. Victor Bazire, M.D.; p. 271.

† Ibid., p. 230 et seq.

‡ 'On the Function of Articulate Speech,' &c.; being a paper read before the Phil. Society of Glasgow, March 7, 1866; p. 8.

§ 'Lancet,' June 16, 1866.

impossible accurately to test her memory or her mental faculties; but her eye looked bright and intelligent, and the impression after careful observation was, that though it had received a shock, her mind retained its essential powers of thinking, feeling, and willing." In short, the testimony of observers generally supports the view, that aphasic patients in the majority of instances are able to reason more or less perfectly; and, as I have already stated, admitting the doctrine of the necessary association of thought and language, so strongly maintained by Max Müller and others, and which, I feel, commends itself to my own consciousness,* we are committed to the conclusion, that in most cases the inability to speak is not occasioned by forgetfulness of words—in fact, is not amnesic. This conclusion is, I need scarcely say, opposed to the prevailing belief that the absence of articulate speech depends principally on the loss of the memory of words, and which, we have seen, has the support of so distinguished a physician as Trousseau.

Certain facts have, however, been brought forward, showing that in some instances words are really forgotten; but before seeking to explain this apparent difficulty, I wish to direct attention to another aspect of the subject—the light thrown on the nature of the aphasic lesion by a consideration of the anatomy and physiology of certain portions of the brain. Avoiding, as far as possible with a subject of this kind, the region of speculation, I would ask, Is a lesion of parts whose functions are known, or at least generally admitted, competent to explain the phenomena of aphasia? Let me first, as briefly as possible, recall a few anatomical points which have a bearing on the question; and I would add, that in my statements I adhere principally to the views of Dr. Carpenter:—The sensory fibres passing upwards from the medulla oblongata, and conveying impressions coming from the body generally, terminate chiefly in the thalamus opticus; motor fibres proceeding to the spinal cord have their origin (so to speak) in the corpus striatum. Operations of the intellect, by general consent, are held to be associated with the grey matter of the surface of the brain. Between the latter and the two great centres just mentioned, is the mass of medullary substance, analogous in structure to the nerves, and believed to have a similar office. Dr. Carpenter considers that fibres connected with the cells of the thalamus opticus radiate to similar cells in the surface grey matter, where they terminate; and that another system of fibres, coming from the surface, having also their origin and termination in ganglionic cells, converge to the corpus striatum. The former, he holds, convey upwards sensory impressions; the latter transmit downwards the mandates of the will. It is with the latter that we are specially concerned. If their continuity be broken—for instance, by an apoplectic

* This *nominalistic* view of the union of thought and language is not, however, *universally* received.

effusion—or should they be defective from any cause whatever, volitional impulses not being transmitted to the corpus striatum and other co-ordinating centres, no voluntary actions will be produced.

Let us now apply these views to the solution of our question. Thought and language may both be present in the mind of a person, and he may also will to express his ideas in words; but if the fibres are ruptured which act as the medium of communication between the surface grey matter and the co-ordinating centres for articulation, volitional incitations not being conveyed, there will be no speech. In the normal condition these incitations must vary extremely in accordance with the variety of words which the mind employs to express its ideas. Indeed, every word selected by the mind must have its own particular impulse, differing from that of every other word. Along these fibres, then, in course of ordinary conversation, impulses are constantly being conveyed, varying almost indefinitely in force and character, and producing equally dissimilar impressions in the centres in which they terminate. If, instead of being entirely incapable of function, the conductors are simply damaged—if the channel is only partially obstructed, so that the changes consequent on volition can still be transmitted in an imperfect manner—it would seem by no means improbable that impulses though perfect in their formation in the vesicular grey matter, and continuing unchanged as far as the connecting medium remains in its normal state, become altered beyond that point; and what more likely than that they should be transmuted into those which most frequently travel along the same road, and may therefore be conceived to admit of such conversion without much difficulty? We have here, then, an explanation of the constant expression of the same few common monosyllables in reply to all questions. Ask an aphasic to pronounce some word not included among his few stock ones, and, as a rule, possibly after many attempts, he will either completely fail, or one or other of his small vocabulary will be ejaculated. At the same time, there is evidently a clear determination of the mind, and a strong effort to comply with your wishes; but still there is failure; the wrong word is uttered, the impulse somehow becomes changed in its transit, and does not produce the desired effect.

Here I would observe, that surely, in such cases, when the word is reiterated again and again in the hearing of the patients—when many will tell you, by every possible sign except the one whose defect we are considering, that they know full well what they wish and strive to say—but more, even when their eyes are fixed on a book, and they have shown that they understand what they are reading (instance the woman Darroch);—I say, surely in such cases the want of utterance cannot be due to forgetfulness of words.

As I have said, the great majority of the sufferers from aphasia are in the condition just described; but there are a few exceptional cases on

record where the persons were able to articulate words without much difficulty, when they were spoken in their hearing. In them there is probably an unusual defect in memory; but it is not shown to have been confined to *words* alone. In a previous part of this paper I described the mental condition of a large number of persons hemiplegic, some on the right and others on the left side; but not aphasic, and it will be remembered that very great difference existed in the degree to which special faculties were impaired. Memory, however, was weakened more than any other; they almost all gave testimony to that effect. It is not, therefore, surprising that along with a slightly defective transmitting power there should be sometimes conjoined a great enfeeblement of the general faculty of memory, including, of course, the names of things, which, as they embody the more concrete ideas, tax the recollection to a greater extent than other parts of speech. But the cases we are now adverting to, as we have said, are rare, and do not represent the usual condition in aphasia, where, strive as they may, the patients are unable to utter the words which they declare to be in their minds—excepting always their few stock ones.

This latter statement is corroborated by many observers. I quote in illustration the following remarks of Dr. Moxon, in the 'Medico-Chirurgical Review' for last April. He says,* "One may, as I have frequently proved, repeat in the ear of a person so afflicted, a name whose meaning is comprehended by him, and yet no effort of his will induce that word to pass to his tongue. Thirty or forty times over I have pronounced the word to endeavour to make him able to speak it after me, but his tongue uttered only an unintelligible noise having no connection with the word required; yet he fully understood the name, and showed plainly his recognition of the right name when tried with others."†

There is one peculiar feature in aphasia, already mentioned in this paper, requiring explanation—the expression of words, and even short sentences, under emotion, which cannot be articulated by the sufferers during mental composure. We have seen that it was manifested in a marked degree by the patient Darroch. On the view of the lesion which I have advanced, it is not difficult to explain the occurrence of this interesting phenomenon, but for its elucidation I shall require to refer again to one or two anatomical

* P. 488.

† Since writing this paper, I have had another aphasic patient under my care in whom the feature referred to here was distinctly marked. Most words he completely failed to pronounce. He was annoyed at his failures, and much pleased when on two or three occasions he succeeded in his attempts at articulation. I specially remarked in this case that the emotional powers were much weakened, even as greatly as in the majority of cases of hemiplegia without aphasia. Thus, his voice quivered and he began to shed tears when I was questioning him. This is opposed to Trousseau's view, who holds—and, I think, correctly, in most cases—that in aphasia the emotions are little, if at all, affected.

points. It is now generally believed that there are many distinct sets of fibres for the transmission of independent sensations and motor impulses. Dr. Brown-Séquard holds that in the spinal cord and nerves there are ten or a dozen, and probably more, classes of conductors, exclusive of those which minister to special sense. Dr. Anstie, in the "Lettsomian Lectures" which have just been published in the 'Lancet,' adopts this doctrine, and gives reasons for his belief that in the fifth nerve there are six kinds of afferent fibres, and three classes of efferent ones, whose functions are isolated, no fibre of one kind being able to convey the particular impression transmitted by the conductors of another group. I am aware that Dr. Handfield Jones and others are opposed to this doctrine; but the prevailing opinion, formed on good grounds, is in favour of many conductors, each having its own special office. If this be so, by analogy we may justly infer that the medullary fibres connecting the grey matter at the surface of the brain with the sensorial centres are not all alike; very probably they are of different kinds, according to the particular function they have to discharge. On this hypothesis a separate system of fibres may be associated respectively with the will and the emotions; and it is quite conceivable that the former may be more implicated in disease than the latter. But if we decline to admit that there is more than one species of efferent fibres, then these, when diseased, may transmit one kind of impulse more readily than another; for instance, the emotional (perhaps on account of its probably greater strength) rather than the intellectual. In either case the impulses developed by emotion would be conveyed to the co-ordinating centres stimulating them to action, and speech would be produced.

But, after all, it is scarcely necessary that we should account for emotional language on the supposition that the stimulus for its production requires to be transmitted from the surface grey matter, as there is reason for believing, along with Dr. Russell Reynolds,* that the emotions are directly associated with the sensori-motor ganglia, and consequently do not require the supposed transmission before originating the co-ordination of acts. In this case a lesion above these ganglia will not interfere with the production of emotional language; on the contrary, the controlling influence of the will being removed, that form of speech may be developed with greater facility.

We now pass on to the consideration of a very important variety of the aphasic condition, in which the patients retain the power of expressing their ideas in writing.

We can seldom test the ability of aphasics to communicate their thoughts by that means, as, generally speaking, there is also hemiplegia on the right side; but where the aphasia exists alone, or the palsy

* 'Diagnosis of the Brain,' &c., by J. Russell Reynolds, M.D., p. 239.

is but slight, usually the sufferers are no more able to write than to speak. On the Amnesic theory the exceptional cases are not to be explained. Trousseau* and Dr. Gairdner have both appreciated the difficulty in accounting for them in accordance with that theory. Dr. Gairdner says,† “Either the alleged cases of aphasia with ability to write were not *true* aphasia, but cases of sudden and complicated paralysis of the organs of articulation, or we must admit two *perfectly distinct* kinds of aphasia, only one of which affects the *ideation* of language, so to speak, while the other affects in some complicated way, as yet imperfectly studied, but perhaps differing from paralysis properly so called, the *innervation* of language, or rather of speech, while it leaves the *ideation* of it on the one hand, and the mechanism of it through the writing hand on the other, absolutely or nearly intact.” I think there can be little doubt of the occasional occurrence of such cases. One is narrated by Trousseau,‡ in which the patient was unable to articulate, but could swallow, and move his tongue perfectly in all directions, and had himself written a sensible, well-worded note, detailing his symptoms. Dr. Hughlings Jackson,§ describes another, where the sufferer could only say “Gee, gee,” but had full power over the movements of her tongue, and could write her name correctly with her left hand.

It can scarcely be maintained that words are not present in the minds of individuals labouring under this form of aphasia; but although a stumbling-block on the amnesic supposition, it may easily be explained on the view which I have advanced. I have said that, on the ground of analogy, it is probable that there are several different kinds of conductors in the medullary substance of the hemispheres. Speech is so important a function, that it may well be conceived to have a separate system of fibres for conveying those impulses from the mind which occasion its expression. On this view, the impulse for writing may be transmitted by other fibres, and all the more likely when it is remembered that in all probability there are different co-ordinating centres for articulation and for the movements of the fingers. The two kinds of conductors may lie side by side, so that both will generally be implicated in the same lesion; but in some rare instances those escape which I believe to be concerned in the transmission of the mandates for writing, so that the words present in the mind can thus be communicated.

Gesture is sometimes retained and sometimes lost. It is evident that the same hypothesis is applicable to the explanation of this other seeming anomaly.

We now proceed to consider the results of post-mortem examina-

* ‘Lectures on Clinical Medicine,’ p. 261.

† ‘The Function of Articulate Speech,’ p. 20. The italics are his.

‡ ‘Lectures on Clinical Medicine,’ p. 262.

§ ‘London Hospital Reports,’ vol. i, 1864, p. 400.

tions of the brains of persons dying aphasic. It is manifest that this department of our subject is a very important one. Is there a uniform lesion present, or are abnormal conditions of many different parts met with on inspection? It must first be remarked, that the number of inspections recorded up to the present time is not by any means large, so that we are probably not yet furnished with a sufficient basis for induction. But with respect to the *general* localisation of the morbid change, we are to a large extent independent of post-mortem inquiries. We have seen that very generally right hemiplegia accompanies aphasia; and it is further to be stated that, with the exception of solitary instances reported respectively by Trousseau and Dr. Hughlings Jackson, and one or two more of a somewhat doubtful nature described by other observers,* no defect in articulate language has been observed along with left hemiplegia. Observations are now so numerous, that these two points may be allowed to be fairly established. Moreover, on the ground of the association, it is inferred that both the palsy and the aphasia are results of the one lesion in the left hemisphere. But when we come to inquire in what part of the left hemisphere the pathological change is situated, there is much less of certainty. In some remarkable instances communicated by Broca, Dr. Sanders, and others, the lesion was confined to the left external frontal convolution; and there is a short notice in the 'Lancet' of the present month (July) of a remarkable case—also recorded by Broca—in which there had been left hemiplegia without loss of language, occurring about two years before death, and afterwards right hemiplegia with aphasia, which soon terminated fatally. At the autopsy the remains of an old clot were found in the right outer frontal convolution, and a recent one in the corresponding part of the left hemisphere. I have not, however, seen a detailed account of this case. But in other dissections of aphasics the left outer frontal convolution has been found intact. Broca himself was the first to record an instance of this kind. Similar examples are given by Trousseau and others. Dr. Gairdner has published one in the 'Glasgow Medical Journal' for last June, in which no lesion of any kind was found; and another, exactly similar, by M. Hillaret, is described in the 'Journal de Médecine Mentale' for September and October of last year. But in these latter it will scarcely be denied that some obscure morbid alteration actually existed.

I would, however, specially notice that wherever morbid change of structure has been observed, the medullary or conducting substance of the hemisphere has always been involved. So far as I can find, in no case has disease been found in the grey substance alone.

* Since writing the above, Dr. Crichton Browne, Medical Superintendent of the West Riding Asylum, mentioned to me that he had lately under his care a case of *left* hemiplegia in which there was almost complete loss of language.

On the other hand, among the insane, and especially those dying of general paralysis, we often perceive deterioration in that vesicular matter; but aphasia is certainly rare in insanity. About four months ago a case occurred in my own practice which I think is of importance in its bearing on this point. The patient, an old man, was not aphasic, as he was at no loss for words; but his mind was very feeble, and he talked incoherently. The following morbid conditions were found after death :*—The dura mater covering the left hemisphere was lined by a false membrane fully thicker than the dura mater itself. This new structure closely adhered to the latter, but could be separated in a distinctly membranous form. It was exactly limited to the left hemisphere, stopping at but not investing the falx cerebri above, and, at the base, extending to but not crossing the middle line of the skull. Near its margin below it was much thinner, and had the appearance of delicate fascia. The grey matter of the convolutions under this membrane was brown, softened, and eroded; these changes being most marked in the frontal and parietal regions—the external frontal convolution being distinctly implicated in its entire extent. Its appearance contrasted very strongly with the ordinary grey aspect of the convolutions of the right side. The softening was quite superficial, and, so far as I could judge, did not involve the white substance.†

Several cases are on record in which the lesion was *entirely* confined to the white substance of the hemisphere. Trousseau gives one observed by Dr. Vulpian, in which there was softening of the posterior half of the white supra ventricular nucleus of the left cerebral hemisphere, and no trace of disease in the frontal or other convolutions; and Dr. Dodgson, of Cockermouth, in the 'Lancet' of April 14th of the present year, describes another, where the convolutions on the left side were sound, but the medullary substance above the ventricle was softened and broken down around an apoplectic cyst.

So far, then, as light is thrown on the question by post-mortem research, we are led to the conclusion that the most uniform lesion is in the conducting fibres of the hemisphere. This is clearly opposed to the Amnesic theory, which supposes a defect of the mind,

* I may state that Dr. Barbour, a gentleman of considerable experience in necroscopical examinations, assisted me in making the inspection.

† The membrane was shown and the case described at length at the June Meeting of the Medico-Chirurgical Society in Glasgow. Since writing the above, I have inspected another very similar case, except that in it the false membranes extended over both hemispheres. The arachnoid and pia mater were even more thickened, and the latter was distinctly adherent in many places to the cortical substance, markedly so over the left external frontal convolution. Under the microscope, sections of grey matter from this convolution, and also from the surface of the island of Reil, presented many cells in a state of fatty degeneration. The symptoms were those of great mental weakness, with a degree of general paralysis; *but there was no aphasia.*

more especially in one faculty, and therefore ought to be associated with disease of the vesicular substance of the convolutions, with which we have reason to believe that at least the intellectual powers are specially connected. But we have seen that even where such lesion existed, and involved the particular convolution supposed to be connected with language, when it was limited to the surface grey matter there was no aphasia. On the other hand, a constant lesion of the white fibrous element strongly supports the view which regards the *essential* defect as one of transmission.

According to the latter hypothesis, the same effect will be produced by an interruption to the fibres at any part of their course, whether it be close to their origin in the convolutions, or possibly near their termination in the co-ordinating centres; for, if completely ruptured at any point, volitional incitations will no longer be conveyed, and words cannot be articulated, at least in their usual way, in obedience to the will. In this relation, it is surely of significance that hemiplegia, a loss of *motor* power, in the great majority of cases accompanies aphasia. This fact of itself seems to suggest that the latter is probably of an analogous nature.

This paper has already extended further than I anticipated, so that I can do little more than refer to the other hypotheses which have been advanced in explanation of the aphasic condition. Baillarger holds that the lesion consists in the loss of the memory of the movements necessary for articulation. This theory would require, as a preliminary step, that proof be submitted of the existence of that form of memory. No doubt, certain plausible statements have been advanced to show the probability of its gradual formation; but they are of too speculative a kind to impart much weight to any doctrine which has no other foundation.

Dr. Jordat (quoted by Trousean), who was himself aphasic for some time, considered that the defect consisted in a morbid change of the co-ordinating centres for speech. If that were so, there ought to be imperfect articulation; but such is not the case. There is no stuttering in the expression of words, however small the vocabulary; as a rule, they are spoken clearly and distinctly.

It will naturally be asked, is any light thrown on the localisation of the lesion in the left hemisphere by the view which I have suggested? Admitting its correctness, I fear we only substitute one difficulty for another. We would certainly thereby get rid of the necessity for supposing that a particular mental faculty was confined to a special part of one side of the brain, as, in accordance with the hypothesis, the mind may be considered to operate as a great whole, in connection more especially with the vesicular matter of the convolutions, while at certain points of the hemispheres it transmits its impulses on volition, along special systems of fibres, to the co-ordinating centres. The conductors for articulation, on grounds

already stated, may probably unite with the surface ganglionic cells somewhere in the region of the external frontal convolution, and thence proceed to the corpus striatum. But we have still to account for these conductors being apparently unilateral. Dr. Moxon, in the paper already referred to, has suggested an ingenious theory in explanation of this seeming infraction of the law that all "organs of relation" are bilaterally symmetrical. At present I can do little more than state his conclusion, which is, that although analogous parts exist in the two hemispheres of the brain, the educated association of movements takes place only on the left side, whilst on the right side corresponding parts remain in an undeveloped state. It does, however, seem inconsistent with the general plan of nature, that a part should have been created simply to remain in an undeveloped condition, as he maintains. Besides, as his theory is based on the greater attention to the movements of the right hand than the left, arguing from that fact, a probably greater attention to the right side of the tongue than the left (memory accumulating on the left side of the brain, where he thinks attention is fixed), it follows that left-handed people ought, when aphasic, to have their hemiplegia on the left side, which *possibly* is the case. Again, how does it happen that even after nineteen years, as in one of my cases, during which, according to the theory, attention ought to have been transferred to the left extremities, memory has not gradually grown up in the right hemisphere?

I would suggest, with hesitation however, as the results of post-mortem examinations seem rather unfavorable to the view I am about to submit, that, on the hypothesis I have supported, when there is hæmorrhage into, or softening of the *right* hemisphere, the conductors for language generally escape, possibly on account of some slight, and hitherto unobserved anatomical difference in the vascular arrangements of the two hemispheres. Should these conducting fibres occupy only a narrow portion of the medullary substance, it is evident that if the lesion be situated immediately before or behind their course, they will not be implicated; and a difference of a line or two would suffice to produce this result. Slight anatomical differences in other bilateral organs are held to dispose to disease of the one rather than the other. Thus, the left spermatic cord is much more subject to varicocele than the right one; and this is alleged to be principally due to the angle of junction of the spermatic veins, respectively with the left renal and inferior cava, being different on the two sides. The brain itself is not perfectly symmetrical in its two halves. Thus, Dr. Robert Boyd has shown that the average weight of the *left* hemisphere is one eighth of an ounce greater than the *right* one; and it may also be mentioned that Baillarger, on the authority of Gratiolet, states "That the frontal convolutions of the left side are in advance of those on the right in their development."

I have already stated that the number of inspections of persons dying aphasic has not been large; but it must be granted that some of them do not favour this explanation: still it can hardly be held to be entirely negatived; and, in connection, it must not be forgotten that undoubted cases of left hemiplegia with aphasia have occurred. No doubt, in these instances lesions of both hemispheres have been supposed to exist, the right producing the hemiplegia, the left the aphasia; but this supposition is unsupported by post-mortem observation, so that possibly both results may have been caused by a morbid change on the right side of the brain alone. It will be observed that I cling to any solution which will obviate the difficulty which arises by conceding that there are organs on the one side of the brain which do not exist on the other.*

Let me, in conclusion, shortly state as a summary the views which I entertain of the cause of aphasia:—There is a lesion usually in the left hemisphere of the brain, of efferent fibres passing between the convolutions and the great co-ordinating centres, probably at some point of a line extending from the external frontal convolution to the corpus striatum, so that voluntary motor impulses for the articulation of language cannot be transmitted. The *essential* morbid change is, therefore, *motor*, and not *mental*. However, there is in most cases an accompanying degeneration of the powers of the mind, which varies in degree in different persons, but in the majority distinctly involves the general faculty of memory. The condition of the intellect does not differ from that which is associated with non-aphasic hemiplegia; but it would seem that the emotional powers are less frequently disturbed. It follows that there is no necessity for supposing the existence of an organ for language, as a defect in transmission along with general weakening of the mental faculties is competent to account for the various phenomena hitherto observed in the sufferers from aphasia.

At present there is no sufficient explanation of the almost constant occurrence of the lesion in the left side of the brain. Theories have been advanced which either involve the belief in a departure from the general plan of nature in the duality of our “organs of relation,” or suppose, what seems inconsistent with the wisdom of Divine arrangement, that organs have been created which never discharge the special functions with which they were endowed. It is suggested that it would be well, in the first instance, to establish beyond doubt that the absence of aphasia in morbid states of the

* It is not necessary to suppose that the same fibres in every case act as the conductors for the incitations which give rise to language, as speech is an *acquired* faculty; so that possibly different fibres in different persons may transmit the impulses for words, provided only they are connected with the co-ordinating centres for articulation. If this were so, a lesion of precisely similar situation in two persons which caused aphasia in the one might not implicate speech in the other.

right hemisphere is not to be accounted for by the escape of parts usually implicated on the left side, owing to some slight anatomical difference, such as is known to exist between other bilateral organs. Failing this hypothesis, let us search anew for some more satisfactory solution of the difficulty than has yet been proposed.*

CLINICAL CASES.

I. *Illustrations of Pathology and Morbid Anatomy in the Insane.*

By W. LAUDER LINDSAY, M.D., F.R.S. Edin., &c.; Physician to the Murray Royal Institution for the Insane, Perth.

THE pathological records of hospitals for the insane seldom contain details of much novelty, or of special significance in relation to abnormal or diseased mentalisation. But occasionally exceptional cases occur interesting in our comparisons of the phenomena—mental and material—which are currently supposed to distinguish sanity from insanity. To this category, apparently, belong three cases which recently occurred in the practice of this institution; the one following the other within a few weeks.

The first lesion to be recorded—an osseous isolated body in the cerebral substance—appears to be, if not unique, at least rare either in the sane or insane.

The second—a typical case of chronic Bright's disease—is an illustrative instance of a disease hitherto generally regarded as either altogether absent, or at least very rare, among the insane.

While the third—stricture of the colon, extensive abdominal cancer, and other lesions—illustrates well (as do the other cases)

* The view of the aphasic lesion explained in this paper was communicated by me, in the beginning of last April, to a meeting of the Medico-Chirurgical Society in Glasgow, on the occasion of the reading of a paper on the subject by Dr. W. T. Gairdner. At that time I was not aware that an explanation in *any degree similar* had been previously proposed. However, in the French 'Journal of Mental Medicine,' referred to in the text, and perused by me in the month of June, I noticed that MM. Letourneau and Cerise had suggested that aphasia may *partially* be due to a defect in transmission; but they hold that there are other causes—Letourneau says there are five different ones. Certainly, the hypothesis as stated by them did not meet with general acceptance. Trousseau's view is, I think, at present, the one generally received—that the principal defect is amnesic. On the other hand, as I have said, my opinion is, that the lesion is *essentially* a MOTOR one.

how little effect the most serious organic lesions sometimes have, in the insane, in the induction of the symptoms usually met with in the sane.

I must not, however, be understood as offering the cases immediately to be recorded, however interesting in themselves, as instances of lesions peculiar to the insane, or diagnostic of insanity, or as bearing any special relation to the mental condition of the patients in whom they occurred.

I am not satisfied, indeed, that there is any structural or organic lesion that is *peculiar to insanity and diagnostic thereof*. That there are apparent exceptions to this statement I am fully aware, but I hold them to be only *apparent*; the amount and kind of proof hitherto adduced being insufficient to convince me of their *real* existence.

Auricular Hæmatoma is, for instance, generally regarded as peculiar to the insane; but all that I hold to be hitherto proved regarding it is, that it has been observed more frequently among the inmates of lunatic, than of general, hospitals. Though it is quite probable the issue of exhaustive examination might prove it to be the case, it has not yet been conclusively shown, I think, that the lesion in question is absolutely or comparatively commoner among the insane than the sane. In order to the determination of such a point, it is necessary to compare similar classes of the sane and insane,—patients who, though differing in the character of their mentalisation, are the subjects of similar cachectic conditions—of those physical degenerations, those derangements of structure or function, which are usually found to be associated with auricular hæmatoma. Hence I believe the enfeebled inmates of poorhouses and refuges for the waifs of our large towns are more suitable classes for comparison than the inmates of general hospitals. The greater comparative frequency of auricular hæmatoma in lunatic asylums is probably, in part at least, due to the greater comparative care there bestowed in expiscating and making the most of all lesions supposed to be special or diagnostic, and to its thus being invested with a significance which would not attach to it in general hospitals amidst the infinity of more serious lesions. Being, generally speaking, innocuous and temporary—not interfering with hearing, not affecting the general health, disappearing gradually by absorption of the exudate,—such a lesion in a general hospital is little likely to attract attention or demand record.

Again, it has latterly become common to associate certain definite structural alterations of the brain with general paralysis or paresis; but I am very far from being satisfied either that general paralysis is invariably, or usually, distinguished by the lesions referred to, or by structural lesions at all; or that, where such lesions exist, they are not to be found to at least equal extent among the sane, and

unassociated with paralysis of any kind. Pathology and pathological histology are constantly bringing to light cases in which, with the most serious mental aberration, no structural lesion of the brain is appreciable to our means or modes of examination; or in which what would *à priori* have been regarded as the most serious (in point both of extent and kind) lesions of the cerebral substance exist without corresponding functional disturbance. Such cases cannot fail to induce caution, if not scepticism, in regard to the so-called *special* lesions of insanity, and justify us in requiring the most convincing and unobjectionable proofs of their asserted *specialty*.

It does not, however, follow that—because in my own experience I have met with no lesion which I can regard as *special*, or because the records of special lesions given by other observers do not convince me of their being other than specialty supposed—I deny that such lesions can or may exist. That they may exist is quite possible; though I think, if they do, they have hitherto evaded our ordinary modes of examination of the brain and spinal cord. It is, indeed, quite likely that we have yet to discover, in connection with insanity, molecular microscopic changes of cerebral structure, or chemical alterations of the cerebral constituents, which require higher microscopical powers, greater patience of research, greater nicety of chemical manipulation, than have yet been employed. Such is the opinion of some eminent pathologists and histologists; and I am ready to concede that it is at least a natural and defensible anticipation, based on the association of functional derangement with structural change.

More than ten years ago,* Professor Bennett, of Edinburgh, wrote me as follows on this subject:

“I take this opportunity of earnestly recommending to you as a subject of serious research the Histology of the Brain in cases of Insanity. There is no link in the great chain of medical science that I so much wish to see elaborated and strengthened as that one; and although immense labour and great conscientiousness in research would be requisite, what you have already accomplished induces me to believe that this will not deter you.

“Should you entertain this proposition favorably, it will give me the greatest pleasure to assist you in any way that may be useful. There would be required—1. A thorough knowledge of what has been accomplished in dividing the structure of the nervous mass, and especially the relation of the nerve tubes and cells. On this head the recent researches of Van der Kolk and Oszanikow are of the utmost importance. Of course, you will make yourself practically familiar with their relations, on which I am satisfied the integrity of nervous function depends.

“2. A careful appreciation of all that has been done in the

* Letter, July, 1856.

physiology of the subject by means of experiment and the result of morbid lesions.

"3. A collection of insane cases, with the symptoms, post-mortem appearances, microscopic examination, specific gravity, &c. &c., minutely detailed.

"It has occurred to me also that a careful series of experiments as to the effects of various poisons which are known to affect different parts of the nervous substance, in conjunction with histology, would be very useful (such as prussic acid, strychnine, wourali, conium, &c.).

"An onerous task, you will say, but one which must bring great honour to the investigator."

Cordially concurring with Professor Bennett in the desirability of such an investigation, I have yet not hitherto found myself in a position favorable for so serious an undertaking; nor can I promise myself, in the immediate future at least, the opportunities which it would demand or the pleasures with which it would be associated.

CASE I.*—*Isolated Osseous Body in the Cerebral Substance.*

1. *History of case.*—A lady, widow, æt. 83, the subject of delusional insanity and of senile dementia, forty years insane, and thirty-five years a resident in the institution; apparent immediate cause of death, serous or congestive apoplexy. For many years was a feeble invalid, confined either to the house, to her room, or to bed; was childish, peevish, and delusional, her delusions having chiefly reference to supposed poison in her food; subject to temper-paroxysms. Latterly, being bedridden, she was drowsy by day as well as by night; an indication, apparently, of the growing exhaustion of age. There was no reason to apprehend an immediately fatal termination till the occurrence of apoplectic coma and respiration about two days before death. The transition, however, was so gradual and imperceptible between her habitual drowsiness and the terminal stupor, and the substertorous respiration was so little distinguished from what was somewhat habitual to her, and what she had frequently before had in connection with slight and transient facial paralysis (of right side), that it was difficult to say when and wherein her fatal illness began. During the said illness, there was intermittent pulse, facial congestion, and a twisting of the mouth and cheek to the *left* side; a paralysis which, however, had long been habitual.

2. *Post-mortem appearances.*—A. *In brain.*—General congestion; considerable serous effusion (ventricular distension; cerebral oedema); general atheroma of cerebral vessels—a condition very common in the aged insane, as it is equally in the aged sane.

While slicing the posterior portion of the *right* cerebral hemisphere, the knife unexpectedly impinged on a hard, resisting body, about the size of a walnut, which was readily enucleated. It was embedded in the white cerebral substance, which was apparently of normal colour, texture, and consistence all around it. Its weight, when fresh and moist, was $1\frac{1}{2}$ oz. (= 20 drachms); when dry, between $\frac{3}{4}$ oz. and 1 oz. (= 14 drachms). Its form was subpyriform, this being most marked in its fresh, moist condition; $1\frac{1}{2}$ " long,

* In order to abbreviate my narrative as much as possible, I give only the prominent and exceptional *post-mortem* appearances, and only those symptoms or particulars during life which are of special interest as bearing on the structural lesions discovered after death.

1" broad at the broader, and $\frac{1}{8}$ " at its narrower, end. It was sectioned by the saw, to which it offered all the resistance of bone. The mass was essentially fibro-osseous; the fibres, by their interlacing, forming a network, the meshes of which were occupied by myriads of extremely minute, round sago-grain- or fish-roe-like bodies, of whose nature I was at first sight doubtful. Thinking they might prove to be entozoa or their ova, I sent specimens (before myself examining them) to my friend Dr. Cobbold, the first authority in this country on human entozoa. He at once pronounced them *not* to be entozoa,* and he placed them for examination in the hands of my friend Dr. Murchison, physician, and Dr. Cayley, pathologist, to the Middlesex Hospital. The bodies in question proved familiar to these gentlemen as occasionally occurring in old subjects; but they gave no definite opinion as to their exact nature or relations. Meanwhile my own examination satisfied me that they are merely a form of aggregation of mineral and animal matter—quite as much so as the fibro-osseous matrix. I found that under hydrochloric acid they maintained their shape, though they lost their consistence and their mineral matter; so that, on pressure between the microscope glasses, instead of now retaining the spherical form, they became gradually oblong and then amorphous; consisting, after the loss of their mineral matter, apparently of a semi-viscid albuminous mass. Under the microscope, the roe-like bodies in question were either spherical, with a diameter varying from '0030" to '0060", or sub-oblong and about '0075" long by '0060" broad. That the substance which gives to them consistence is of the nature of carbonate of lime, is rendered probable by the circumstance of their effervescence under hydrochloric acid; a reaction which results from the application of the same acid to any part of the general fibro-osseous mass. The fibres, therefore, equally with the roe-like bodies, appear to consist of a combination of calcareous and albuminous matter. The mass was thoroughly vascular or organised, being permeated and surrounded or enveloped by minute vessels, which remain, in the dry state, prominently visible on its surface; and the vascularity was such as to communicate a peach or red colour to certain portions of its substance. I failed to satisfy myself of the existence of Haversian canals, cancelli, Purkinjean corpuscles, calcigerous tubuli, or concentric lamellæ; that is, of what are generally regarded as the evidences of normally and fully organised bone. Nevertheless, I do not hesitate to consider the body under description as virtually *osseous*. The centre of the mass was about $\frac{3}{4}$ " in diameter, soft and yellowish, less highly organised or less consolidated than the circumferential portions. In the dry state the mass has the hardness and colour of bone, with the light weight of the more porous bones. The fibres are obscurely striated; and apparently attached to them by fibrous filaments are numbers of the roe-like bodies, which are often seen on the circumference or exterior of the nodule. They also abound in the cross section, which is sub-granular from their presence and that of amorphous mineral matter, and from the cross-cutting of the constituent fibres of the mass. These roe-like bodies are of similar colour to the fibres; they are readily observable under the lens.

b. In thorax.—Cartilaginous thickening of heart-valves; atheromatous and calcareous degeneration of aorta extensive; dilatation of aorta from its origin to its passage through diaphragm: two aneurismal dilatations of descending portion.

Commentary.—I have searched all the papers and works on pathology, histology, and morbid anatomy to which I have access, without finding an exactly parallel case, *quoad* the osseous mass in the brain; from which I conclude that such a lesion or condition is

* Letter, April, 1866.

at least rare either in the sane or insane. I believe the body in question to be the result of the progressive metamorphosis of an apoplectic clot. I am not in possession of any evidence to show when or under what series of symptoms this clot was formed. In the records of this institution the only attacks of an apoplectic character which are mentioned were in their nature and duration incompatible apparently with the development of so serious a lesion, and were referred to the congestive or serous form of apoplexy; a disease which, though frequently fatal, often leaves little trace of its existence, of a kind at least which can be distinguished from simpler congestions and effusions. It would, therefore, appear probable that the clot in question had been formed prior to her admission, thirty-five years ago; and that during this long period the patient enjoyed comparatively excellent health (for her years), and with no corresponding mental disturbance, having in the midst of her brain-substance a foreign body as large and as hard as a walnut. I say *corresponding* mental disturbance, because I do not connect the foreign body in question with the mental aberration at all. Cases exhibiting similar mental phenomena are common without the existence of any structural lesions discoverable in the brain after death; and I have no doubt that the foreign body in this case might equally have existed in a perfectly sane individual, with no ultimate mental disturbance.

A similar metamorphosis is not uncommon in lymph-exudations in other parts of the body in the insane, and equally, I believe, in the sane. I have seen most extensive osseous metamorphosis of pleuritic exudations on the one hand: and on the other of the most limited kind in some of the structures of the eye; and I believe ossification apt to occur as an ultimate stage of progressive metamorphosis in fibrinous exudates in any part of the body. The great element in their formation is *time*; and hence it is invariably in elderly or old subjects that it is to be found.

CASE II.—*Chronic Bright's Disease.*

History of case.—A lady, single, æt. 46; twenty-eight years insane, and twenty years resident in this institution; the subject of confirmed dementia, with paroxysmal impulsive mania, marked by great destructiveness; apparent immediate cause of death, Bright's disease. The patient had habitually that "lean and hungry" look, that degree of emaciation and debility, so common in chronic mania. But no departure from her ordinary state of health was observable until about twelve days prior to death, when puffiness of the face attracted my attention, leading me to suspect the existence of Bright's disease in a serious form or stage. With a view to her thorough examination, and as a conservative measure, she was ordered to bed, and a careful physical examination made; the result being immediate and full confirmation of my suspicions. The symptoms now exhibited included the following:

Pulse 130, very feeble; increasing emaciation; cough, with hectic and the

outward appearances of phthisis; anorexia; nausea; vomiting; inordinate thirst for two or three days, not apparently proportionally affecting the amount of urine excreted; the latter, however, it was impossible to measure, as it was generally passed in the bed-clothes, and immediately being absorbed or draining away: œdema of face and feet, in the face having that pallor so common in, if not characteristic of, Bright's disease; in the face, however, it speedily disappeared in the recumbent posture: cardiac action irregular and tumultuous, perceived only, however, in certain postures, and when free from excitement. *Urine* could be collected for examination only on two occasions, at an interval of three days: on both occasions it presented the same characters—highly albuminous, sp. gr. 1008, no sugar. She had a paroxysm of excitement the day before death, suddenly getting out of bed and smashing a water-jug: this excitement was followed by an exhaustion from which she did not rally. During the whole period of her residence she appears to have been subject to occasional attacks of diarrhœa. Her appetite was generally voracious, especially after a paroxysm of excitement. Unfortunately, the prejudices of friends interfered with a post-mortem examination; so that it was impossible to corroborate by dissection after death the strong belief formed during life that the case was a typical and instructive one of Bright's disease of long standing, and now in an advanced stage.

Commentary.—So lately as 1858, what is still considered the best English work on psychological medicine (Bucknill and Tuke's 'Manual,' 1st edit., page 451) described Bright's disease as unknown in the insane; and on the strength of this assertion I have heard of experienced asylum-superintendents obstinately and blindly denying that in a given case of insanity there *could be* Bright's disease! An amount of confidence this (the reverse of the safer principle of guidance in matters scientific, "Nullius in verba magistri"), which, while a high compliment to Dr. Bucknill, said little either for the candour, independence of judgment, or pathological acquirements of such superintendents. Of Dr. Bucknill himself it is but fair to state that he subsequently saw cause to modify his first assertion. (Appendix to 1st edition, p. 556.)

From the date of my official connection with lunatic hospitals in 1853, I was in the habit of examining the urine of patients, and occasionally I found it albuminous; so that I was surprised by so strong a statement, and coming from such a source as that referred to in the text-book above mentioned. Suspecting error or fallacy on my own part, I gave renewed attention, subsequent to 1858, to the subject of albuminuria and Bright's disease in the insane. In 1856 the result of a special series of examinations for albumen proved negative; as did also a parallel series in 1859. Whence the inference is legitimate, *quoad* my own experience, that albuminuria is rare among the insane; a circumstance that must, however, be considered in conjunction with the fact that the residents in lunatic hospitals are greatly exempt from those habits or conditions of life, such as intemperance, which are found to be so common predisposing causes of albuminuria or Bright's disease. During the last thirteen years, however, I have met with occasional instances of albuminuria, and

of what I considered undoubted Bright's disease; and to some of these I drew attention in the Medical Reports of this institution for 1857-8, p. 15; 1859-60, pp. 19, 22, 24, 25.

For several years I have seldom perused the medical reports of other asylums for the insane without finding Albuminuria or Bright's disease among the assigned causes of death; from which it is a fair inference that other cases occur which are either overlooked or not specially recorded because they are not fatal. In other words, what was not detected prior, we might almost say, to 1860—not because it did not exist, but because the means of its detection were either unknown or not applied—is now found to be comparatively common. This is simply one of the many beneficial results of the progress of medical science, and of the applications thereto of the advantages of chemical and microscopical research.

The older superintendents of asylums—men of the last generation—were not educated to appreciate the applications of chemistry and microscopy to medicine; applications which are of comparatively recent introduction. They cannot, therefore, be blamed or held responsible either for their ignorance, or its results on diagnosis or practice; for without chemical and optical aid it was not possible to discriminate the conditions or lesions under review. The superintendents and assistants of the present generation, however, do, or should possess the requisite knowledge and apply the necessary tests or aids; but if their predecessors are not to be blamed for what they could *not* do without the test-tube and microscope, as little is the present race of asylum medical officers to be credited for what they *can* do with such auxiliaries to clinical study. Blame and discredit, however, will undoubtedly be their due if, with such powerful adjuncts to examination, they fail duly to avail themselves of their opportunities, and suffer to pass undetected such abnormal conditions as *permanent* Albuminuria and Bright's disease of the kidney. There are, however, certain difficulties to be encountered in the discrimination of such conditions or lesions in the insane that do not occur equally, if at all, among the sane: illustrations whereof are to be found in the case above recorded. It is, *e. g.*, a fundamental necessity in the examination of patients who are the supposed subjects of such diseased conditions during life, that urine should be obtainable in sufficient quantity for examination (as to specific gravity, quantity, and chemical characters). Yet, in such cases as that above recorded, it is the exception that even the smallest quantity can be collected, unless, indeed, it be removed per catheter from the bladder—a procedure which, in an excitable, violent patient, is equally an impossibility.

CASE III. — *Stricture and Fungus Hematodes of Colon; Cancer of Liver and Mesentery; Fracture and False Joint of Condyle of Humerus.*

1. *History of case.*—A gentleman, single, æt. 64, thirty-six years insane, and

twenty-six years resident in this institution, the subject of chronic dementia : apparent immediate cause of death, stricture of the colon from fungus hæmatodes. Like the two preceding cases, he was of spare make, and had been for years thin, sallow, and far from robust; able, however, until he was compulsorily confined to bed, to take a considerable measure of active open air exercise; seldom if ever confined to house or bed with ailments however insignificant, and, judging from his habits, enjoying a fair measure of average health. Notwithstanding his age, he exhibited all the vivacity and restlessness of a child, and, spite of his grey hairs, his aspect was comparatively juvenile. He had a peculiar stooping senile gait, with various eccentricities of posture, movement, and speech. In particular, he had a peculiar jerking motion of the right shoulder, and angular movement of the right arm, especially when excited; but he used the arm quite freely; he never made any complaints regarding it, and there was nothing to lead to the connection of such movements with any organic derangement of the elbow-joint, till it was discovered on post-mortem examination that such derangement existed. There is no evidence in our records of his having met with any accident to the limb, nor is its peculiar motion alluded to, save in the most general way. Whence it would appear that the accident, of whatever kind, must have occurred prior to his admission here, twenty-six years ago. One of his eccentricities was to walk with his eyes shut—a peculiarity which once led him to walk into a mill-dam. The sudden immersion, however, at once induced an active use of both eyes and legs.

About three weeks (eighteen days) prior to his death, it was reported that he had (expectorated? or) vomited some bloody mucus. On examination, I found that his appetite had failed somewhat for some days; he had a sub-cachectic aspect, and was in poor condition as to flesh. As an experimental and conservative measure, he was placed in bed, where the following conditions were found to exist: heart-sounds comparatively healthy; only record of abnormality was prolongation and loudness of first sound; occasional nausea, latterly vomiting; appetite improved, and comparatively good until a day or two before death; showed considerable relish for beef-tea and stimulants; increasing emaciation; wonderful vivacity; sensitive to the last to all external impressions; resisting the approaches or assistance of strangers; exhibiting all his familiar eccentricities; making no complaint whatever of pain, save on one occasion, a day or two before death, when he referred it to his abdomen.

2. *Post-mortem appearances.*—*A. In brain.*—Ventricular distension (with serum)—a common phenomenon both in sane and insane, and frequently, if not generally, without special or pathognomonic significance.

B. In thorax.—Cardiac hypertrophy (left side), with attenuation on right.

C. In abdomen.—Stricture at sigmoid flexure of colon by a typical fungus hæmatodes, connected with multiple encephaloid cancer of mesentery; adjacent intestines matted into a knotted mass by recent lymph; recent and intense peritonitis, spreading from this centre; lymph and serum in abdominal cavity; multiple encephaloid cancer of liver—as fine a specimen as I have ever seen in the pathological theatres or museums of general hospitals.

D. Right elbow-joint.—Old-standing fracture of external condyle of humerus, with false joint, instead of union, between the fractured surfaces.

Commentary.—In this case we have a condition as bad as ileus; a knotting together of a large mass of intestine, with extensive acute peritonitis and ulcerated cancer superadded; all with the most trivial indications of pain or suffering. Indeed, all the cases now recorded illustrate the wonderful influence of the condition of the cerebral

and nervous systems in modifying or obscuring the ordinary symptoms of serious organic disease, the ordinary exhibitions of pain or indications of suffering; the trifling derangements of health or habits induced by rapidly advancing fatal affections of the most important viscera; the absence of that assistance from the narrative of the sensations of the patient, of which the physician treating parallel affections in the sane has the advantage; the occasional apparent independence of the mental phenomena on the physical condition even *in extremis*. These and other important lessons, which such cases are qualified to teach, are not, however, now expounded or illustrated for the first time. They are far from being new; I have myself frequently drawn attention to them in the Medical Reports of this institution; but too much importance can scarcely be assigned them as illustrations of the special difficulties with which the physician who treats insanity has to deal as compared with his brother in ordinary practice. Nor can such lessons be too abundantly illustrated, especially to these our brethren in ordinary practice; for it has occurred to me, more than once, to find surgeons and physicians of the highest eminence, when called in consultation concerning surgical or medical difficulties in insane cases, befooling themselves, through ignorance of such distinctions, by recommending for the insane procedures which, however suitable for the sane, are here simply absurd from their impracticability.

Bibliographical References.

In the Medical Reports of this Institution, I have more or less fully discussed the more interesting points raised by such cases as are herein-above recorded: so that it is unnecessary now to occupy space by recapitulation.

The reader will find general references to *morbid anatomy, histology, and pathology* in the insane, in the index to the 'Medical Reports' for the decennium from 1854 to 1864, p. 7.

The supposed *specialty of structural lesions in insanity* is discussed in the Report for 1858-9, p. 15.

The *peculiarities of the symptomatology of organic diseases* in the insane are referred to in the Reports for 1857-8, p. 13; and 1860-1, p. 36.

General illustrations of *exceptional organic lesions* in the insane are recorded in the Reports for 1856-7, 1857-8, 1859-60, and 1860-1.

Illustrations of the condition of the *urine*, especially in reference to *Albuminuria* and *Bright's disease*, will be found in certain "Contributions to the Chemistry and Microscopy of the Urine in the Insane," in the 'Journal of Psychological Medicine,' July, 1856, p. 488; and in the Report for 1860-1, pp. 36 and 40.

Illustrations of *osseous metamorphosis of fibrinous exudates* are given in the Report for 1859-60, pp. 19 and 21.

Instances of the *atheromatous diathesis* occur in Reports for 1859-60, p. 22, and for 1860-1, p. 35.

A case of *cancer* of liver with acute enteritis and peritonitis, fatal *without the exhibition of pain*, and so far parallel to Case III, above recorded, will be found in Report for 1857-8, pp. 10 and 14.

II. *A Curious Case of Feigned Insanity.* Translated from the 'Archives Générales de Médecine,' March, 1866. By G. MACKENZIE BACON, M.D., &c. &c.

It is rare to meet with a more singular case of simulated insanity than that related in the following pages, or with one more creditable to the sagacity and good judgment of the physicians engaged in its investigation. In its conflict with public ignorance and prejudice medical science seldom has the satisfaction of demonstrating to the vulgar understanding the truth of its opinions in so signal a manner as in the present instance, and considering the way in which the evidence of alienists is so often received, the sense of triumph must have been particularly sweet. The case attracted some notice in the French newspapers at the time, and this led Dr. Ladueit de Lacharrière to publish a detailed account of the inquiry he made in common with M. Tardieu and M. Lasagne. They did not, he says, adopt the violent measures employed by some of their medical brethren at Lyons, in 1828, who, in examining a man accused of assassination who refused to speak, when other measures failed, applied red-hot irons to the soles of his feet, with the effect of, after the seventh application, making the man very communicative. The skill and patience of the doctors last year succeeded in overcoming the man's obstinacy by less cruel means, though we question whether the difficulties of the case were less. The following is, with the omission of a few sentences not directly connected with the narrative, a literal translation of the French report, which bears the title of 'Étude médico-légale sur un Cas de Simulation de folie pendant trois mois:—

On July 2nd, 1865, about noon, Miss M—, living in the Rue Vivienne, on entering her room discovered a person hidden under the bed. She immediately called for assistance and the man was arrested; when questioned by the police he pretended to have no other name than that of the Regenerator, and said he lived at Villejuif. There were found upon him some prospectuses of the office of general publicity, and the plan of a prospectus, written in pencil, appearing to be the work of a madman. Besides these prospectuses, he had a large joiner's chisel, a razor, and two small knives with sharp blades. The porter of the house said that the man had twice during the morning passed before his lodge. When questioned as to the motive which induced him to enter the room of Miss M—, he pretended that he had certain rights over her, resulting from an old connection with her and a promise of marriage; that he had known her at Châlons; had come to Paris to follow up his mistress; had found there that she had been unfaithful to him, and that he had hidden himself under the bed in order to surprise her in her misconduct. As proof of the innocence of his intentions, he reminded the police that he had not attempted to escape, nor offered any resistance. He was often asked as to his antecedents, but he gave nothing but falsehoods and extravagant tales in answer. He had been, he said, employed at Châlons in a mercer's establishment, and at Paris in the office of which he had the prospectus. The name of "Regenerator" represented the superior

faculties of which he and the members of his family were possessed. He had received a mission to regenerate the human race; and among his supernatural gifts, he had that of curing the deaf. At Villejuif everybody was anxious to give him all he wanted in return for the services he rendered so lavishly. These notions of imaginary superiority, so plainly opposed to the social and intellectual position of the patients, are not rare amongst the insane; indeed, they characterise one of the forms of insanity. But if the lunatic supposes himself a superior being, and immensely rich, when he has not enough to supply his wants, an eminent artist, a general, or a prince, he still would have no hesitation in saying where he was the previous evening; how he was occupied; what persons he met, &c., without even perceiving that these answers were so little consonant with the grandeur and riches of which some minutes before he declared himself possessed. The information received by the police soon established the fact that the statements of the "Regenerator" were so many lies; for he was not known in the mercer's shop, nor at the office, nor even at Villejuif, where he had probably never lived. Not only had his pretended title never been announced there, but no individual answering to that description had been known in that place. Once convinced that we had not believed any of his statements, the "Regenerator" adopted a new line of conduct; he absolutely refused to answer every question, and, when hard pressed, invariably replied, "I have offended God. I am making my retreat. I must not speak until my retreat is finished." This change and persistent silence supervening thus, without any new cerebral symptoms, could only confirm our suspicions. If there were occasion to suppose that we were dealing with a man who was determined to conceal his identity and simulate madness, it was necessary to proceed with the greatest reserve. The aspect of the man was, indeed, very odd; he had not certainly an intelligent face, but he possessed to a remarkable degree the power of assuming an expression of dull stupidity which he preserved nearly four months. He wore green spectacles, which he rarely parted with; his long hair was in such disorder that it was impossible to disentangle it, and was like the rest of his person very dirty. His clothes were soiled and torn, and his shirt was always wide open so as to show his chest. He pretended to have no care for himself, and to live in a state of utter indifference. After having remained some time at the police station, the "Regenerator" was transferred to the *Mazas* prison, and placed in a cell with three other prisoners for his companions, one of whom, a very intelligent and cunning fellow, was stimulated to get some information from him, but could not succeed.

For the first few days the "Regenerator" was as odd and incoherent with his companions as he had been during our visits; it was impossible to get a word from him. He remained stretched on his bed, and reading with interest some books of travel which the chaplain had lent him. He refused the least food until 3 p.m., and at this hour he devoured, besides two pounds of bread (his portion of food), anything that his companions had left from their meal. After some time he adopted the same habits as the other prisoners, still preserving an absolute silence. To his fellow prisoners, as also to us, he said he wished to enter La Trappe, and demanded to be taken there. He did not wish for liberty; only desired one thing, to be left alone in order to make his retreat. By degrees we were able to get from him some senseless remarks, which always terminated with these words, "I wish to make my retreat." Having decided to prolong our observation of him, up to this time so unproductive, we obtained an order to have the "Regenerator" transferred to the police station, where he was kept in the strictest solitary confinement, and was frequently examined. For two months he maintained the same line of conduct, making no requests nor complaints, not even uttering a word to ask for his food, and declaring, when closely questioned, that he

was satisfied and wanted nothing. His health did not appear to have suffered, either from the want of exercise or the weariness of solitude, and his face had assumed a more and more stupid expression. When we approached him he drew back as if afraid. The doctor of the prison having reproached him for throwing some wet bread on the ground, he said, in the silliest way possible, "It is for the flies," and endeavoured with a stupid air to look for some flies on the ceiling. Every one in the prison began to be persuaded that the "Regenerator" was really insane, and that he ought to be considered a 'veritable idiot.' Although this inquiry thus prolonged had given us nothing decisive on which to form a judgment, yet this sort of delusion agreed so little with the known points of insanity, that we resolved to wait longer before bringing our investigation to a close. The "Regenerator" knew it; we took care to repeat it, and to have it repeated to him by the warder. At last, weary of the struggle, and seeing that our tenacity was equal to his own, he was the first to give way, and discard his mask. "I have had enough of it," he said, one morning to a warder who brought him his bread. "I can no longer endure the life that I lead, and would rather acknowledge everything." He then wrote to the Procureur, imploring him to take pity on him, and furnished him very readily with all the information that we up to that time had failed to extract from him. On giving up his part the "Regenerator" became at the same time quite another man; he discarded spectacles, and his face, without being intelligent, had no longer that look of imbecility; he brushed his clothes, and his dress became neat and tidy. He acknowledged that he had feigned insanity, in the hope of being placed in an asylum, and of going out at the end of some time, without falling into the hands of justice. He had been brought up as a confectioner, and by his own account was no novice in theft and roguery. In 1859, he stole a sum of about 200 francs, and was condemned to five years' imprisonment, and sent to the prison of Poissy. Having distinguished himself by his industry and quiet behaviour, he was liberated at the end of four years. After having practised as a confectioner for some months in a country town, he came to Paris in 1863, but finding no work he went to Meaux, and called on a grocer, using the name of one of his neighbours, to borrow a small sum of money, but the neighbour hearing of it, the trick was found out and he was sent to prison for six months. For three months he refused to give his name, which they could not discover until they found an envelope in his pocket addressed to himself. When he left prison he came to Paris, and was soon after arrested as above described, in the house which he had formerly inhabited, and where he had committed the first theft. "I was hungry," he said, "not having had anything to eat since the previous evening. Having lived in the house. I knew that the room of Miss M— was used as a kitchen, and I went into it with the intention of getting some food; I had taken the joiner's chisel to force the cupboard if I found it shut." The man whose history we have just given is mild and of limited mental power, but he possesses a strength and tenacity of will very uncommon. Before getting into the house where he was going to commit the theft his plan was laid; if discovered, he must assume madness, and, accordingly, no sooner was he arrested than he raved and got incoherent, which made the police doubtful of his sanity. The name of "Regenerator" and these grand ideas were notions prepared beforehand, and which he knew sometimes to belong to the insane. He soon saw he was not clever enough to play the part of a talkative and excited madman for a long time, and, therefore, in order to avoid detection, he refused to answer, and said but little; wishing it to be believed that he was absorbed in religious ideas. What upset him (as it does almost all those who simulate madness) was that he overdid it, and did not dare, because he wished to be considered insane, to exhibit a single rational idea.

PART II.—REVIEWS.

1. *Twentieth Report of the Commissioners in Lunacy to the Lord Chancellor.* Ordered by the House of Commons to be printed, 4th June, 1866.
2. *Eighth Annual Report of the General Board of Commissioners in Lunacy for Scotland.* 1866.
3. *The Fifteenth Report of the District, Criminal, and Private Lunatic Asylums in Ireland.* 1866.

It is hardly to be expected that reports which appear year after year upon the same subject should contain much that is novel. They are none the less important, however, as records of what is being steadily done to ameliorate the condition of the insane, and as supplying statistical data that may at some time be of great value. Moreover, they are excellent engines in the hands of the authorities for preventing shortcomings and stimulating zeal on the part of those who have the immediate care of the insane. No one, however callous he may be to censure, can feel entirely indifferent when he finds himself gibbeted as an example and warning in a blue book presented to the House of Commons, and ordered by it to be printed for public perusal. We have, indeed, heard it suggested that the advertisement of the proceedings taken against those who have been found wanting in their duties might be more effectual as a warning if the example of the railway companies were imitated, who only advertise their prosecutions when these have been successful, and they are accordingly able at the same time to placard the fine or other penalty inflicted by the magistrate on the offender. After all, however, when John Smith or Jones is fined forty shillings under the company's bye-laws, the gist of the punishment is not in the fine but in the publicity given to the offence and to its penal consequences. And it is certain that the accounts which the Commissioners give of the proceedings which they have been compelled to take against contumacious individuals and contumacious bodies of men, whether these have been successful or not, are of use to prove their vigilance and to satisfy the public mind of the effectual supervision exercised by them. We cannot help thinking, moreover, that the firm and vigilant action of the commissioners is very necessary to protect the insane against

the public itself, whose unreasoning horror and selfish fear of them have been the real cause of the great suffering which they underwent in times past, and are still the cause of much needless suffering to them.

It may be laid down as an incontestable proposition that it is not the people who ever have been, or are now, the real friends of the insane, however much they may flatter themselves with the consciousness of kindly feelings respecting them. How often did Pinel appeal, and appeal in vain, to the authorities before he was permitted to make the experiment of striking the chains from off a few lunatics, and of treating them with kindness and consideration? Against what an embattled phalanx of obstructive prejudices, interested opposition, and selfish indifference, did the humane system of treatment, the conception and realisation of which were not with the public but in spite of it, finally win its slow way to general sanction and adoption? A few earnest members of the medical profession, inspired by benevolent feeling, little aided and much hindered from without, clung to a drooping standard, and animated with sincere conviction, and nerved by a sublime determination, bore it onward to triumphant victory. What a terrible outcry is now raised by an alarmed and angry public when some poor madman who has committed homicide in a paroxysm of his frenzy is permitted to pass the remainder of his unhappy life in confinement, instead of being despatched forthwith on the scaffold in the sight of ragged, filthy, execrating, blaspheming thousands, a glorious moral lesson to its scum by a civilised and Christian people! How many veritable lunatics are year after year executed in direct opposition to scientific testimony, but in obedience to ignorant and unrighteous judgments, inspired by popular prejudice! When the superintendent or proprietor of an asylum sends a few of his patients to the seaside to reside there for a time, how frequently does it happen that the whole neighbourhood rises in indignant rebellion, and hastens to protest against the outrage thought to be practised upon it? And when the protest has been in vain, with what a singular consideration does this public, so eagerly censorious of those who have the difficult charge of the insane, behave itself with regard to them; it stares at them, points at them, perhaps follows them at a distance, as they take their walks, exactly as if they were so many wild beasts led about by their keepers, and no longer brothers, fathers, sisters, and mothers! To be a lunatic, as public sentiment goes, is to be cut off socially from humanity. Instead of labouring to attract the morbid elements back into the social system by sympathetic feeling, and to assimilate them once more to the healthy elements by the beneficial influence of their healthy life, the public policy is sternly to cut them off or to extrude them from social life. With such feelings and such practice prevalent in regard to the in-

sane, who will dare affirm that the people are their friends? Once more the cry of humanity may be heard; once more the standard of humanity raised; but the cry will not come from the mouth of the people, and the standard will not be borne by their arms; in close ranks they will oppose, as from the beginning of the world they have opposed, the cause of progress, scientific and social, whose cause is, indeed, and by the nature of the case ever shall be, written in the history of popular defeats.

Having put on the record this heavy indictment against the public, with the result, perhaps, of some small personal relief, but without the remotest expectation that the hardened public will ever hear one word of it, we proceed to our immediate business of a cursory survey of these lunacy reports. We shall take the English report first.

ENGLAND.—There were 30,869 lunatics in the asylums and hospitals of England and Wales on the 1st January, 1866, as against 29,425 on the 1st January, 1865; and of these 14,630 were males, 16,239 females; 24,995 were pauper, 5874 private patients. Amongst the pauper patients there were 2397 more females than males; amongst private patients 788 more males than females. Of the whole number of lunatics only 3479, a little more than one ninth, *were deemed curable*. These are all the figures which we shall give; they are sufficiently striking, and would be more so were it not that habit has accustomed us to view them with indifference. Add to the total number at least 9756 lunatics in workhouses 227 single patients certified according to the statute, and *x* to represent the unknown quantity of single patients not so certified, and the grand total will be the number of insane persons in England and Wales.

The burden of the first fourteen pages of the 'Report' is the overcrowded state of many of the county asylums, and the inadequate provision for their insane, on the part of many counties and boroughs. The practical steps suggested, recommended, or insisted upon, to remedy the evils exposed, are the enlargement of several of the existing county asylums, the rearing of a new asylum in certain counties that have not yet built one, and of a second or a third asylum in the counties in which the existing asylums are already too large, and the building of separate asylums for several boroughs. In short, the most desirable course is thought to be to multiply asylums throughout the country, and to gather the insane into them from the north and the south, from the east and the west. Now we should hesitate extremely before pronouncing a system recommended by those who have so much experience and knowledge of the insane, and their requirements, as wrong; and yet we cannot resist a suspicion which is fast growing into a conviction, that it is not entirely right.

Important and most valuable data for the determination of the question will be found in an appendix to the Scotch Report, where there is an excellent report on the condition of the insane in private dwellings in Scotland, by Dr. Mitchell, one of the Deputy Commissioners in Lunacy, a report not less remarkable for the striking facts which it discloses, than it is for the calm, temperate, and admirable manner in which it is written. All who are interested in the subject should certainly study Dr. Mitchell's able report; whether they agree entirely with his conclusions or not, they cannot fail to be impressed with the facts which he sets forth. The question must plainly lay hold upon public attention before long; and in proof that it is already beginning to rise into public notice, we may quote the following leading article from the 'Scotsman' of October 13th, a paper in which certain well-written and philosophical articles on social subjects from time to time appear. The writer, after quoting the figures showing the number of the insane in England, and the manner of their distribution, proceeds thus :

"We would now direct attention to the question whether there are not causes at work which, so to speak, abnormally increase the number of pauper lunatics—that is, of lunatics maintained at the public expense. Hitherto, the increase of this class has baffled all calculation, and has kept ahead of the means of accommodation to such an extent, that a chronic pressure for more room has for many years been the common state of asylums in England. And there can be little doubt that, unless some modification take place in the views which regulate the admission of patients, and restrict the period during which they shall be detained for treatment, we are very far from having reached the limit of this increase. Arguing from what lies openly on the surface, we would ask whether it is likely that, if there are among the independent classes of society only 5277 lunatics who require asylum care and treatment, there should be among the indigent as many as 24,995 for whom such care and treatment is indispensable, and that without reckoning the 9756 who are disposed of in poorhouses. Let us inquire for a moment what became of the indigent insane fifty years ago, when not a tithe of the existing asylum accommodation was provided. They must of course have been kept in private dwellings; frequently, no doubt, in a state of great wretchedness, but not greater, perhaps, than in the asylums of that day, in which we know the patients were frequently treated with the utmost barbarity. But modern experience has taught us that cruelty is not a necessary accompaniment of the treatment of the insane: it has been in a great degree banished from asylums, and we are not aware of any insuperable obstacle to its being equally banished from private dwellings. If this end can be achieved—and experience in Scotland leads us to hope that it can—we see at once in what manner the indefinite multiplication and enlargement of asylums can be efficiently checked.

Human nature is apt to give way before temptation. Erect an asylum, and proclaim that gratuitous treatment will be extended to all who are sent in, and forthwith from every nook and cranny in society patients will come forth to fill it. Not patients, be it observed, who require the special treatment of an asylum to restore sanity, or to guard against danger, but persons affected with incurable insanity who have passed many years in the circumstances from which they are now to be removed. The moving power is gain—to some of ease, to others of money. It is seen how a person more or

less troublesome, more or less burdensome, can be got quit of at the public expense; and the result is as described. Similar influences step in to prevent the removal of patients from asylums when their mental condition is beyond the reach of curative treatment; and herein lies another source of the apparent necessity for increased accommodation. Experience is, however, beginning to teach the English Lunacy Commissioners that the problem of accommodating all the pauper lunatics of the country in asylums is one beyond the resources even of wealthy England, although the cubic space allowed is considerably within the limits which Mr. Farnall has fixed as necessary for infirm paupers. Accordingly, they admit in the report before us, that workhouses may properly serve for the accommodation of the greater proportion of imbeciles and old chronic cases of insanity. But we would go a step further, and maintain that a large proportion of such cases might, under due surveillance, and with adequate provision for their maintenance, be properly accommodated in private dwellings. Experience shows that a much larger proportion of private than of pauper patients is removed unrecovered from asylums. This result cannot be ascribed to any difference in the form of the malady affecting the two classes; it must be due alone, or at least in great measure, to the greater capability of the richer classes to make proper provision for their patients out of the asylum. The state does not seek to prevent the removal of private lunatics from asylums, unless exceptionally, when they are considered dangerous; and, in the same spirit, it should only interfere to prevent the removal of paupers when they are believed to be dangerous, or when it is proposed to place them in circumstances not compatible with their proper care. An adequate alimentary allowance would place them, comparatively speaking, in respect of maintenance, on a par with private patients; and as regards danger, there is no reason for any greater restriction in the one class than the other. These are the views which have guided recent lunacy legislation in Scotland, and we have little doubt that they will gradually be extended to England, as the burden entailed by constantly enlarging the existing asylum accommodation becomes more and more severe. We would not, however, be understood as maintaining that pauper lunatics can as a rule be more properly placed, or be better cared for, in private dwellings and poorhouses than in asylums. Far from it. All that we assert is, that there is no necessity for submitting all pauper lunatics to the expensive care and treatment of asylums; and, therefore, that it is but justice to the ratepayers to dispose of all those who do not require such treatment in a less costly manner. Supposing that a pauper patient in an asylum costs, between his accommodation and maintenance, on an average £25 a year, the addition to the burdens of the English people last year, owing to the increase of 1232 in the number of pauper lunatics placed in asylums, was £30,800. If this sum was spent, as we believe was the case, wholly or in great measure in extending a system of treatment to cases incapable of deriving any special benefit from its appliances, it is clear that the money was in a like degree wasted. Fully admitting that as a rule the comforts provided in asylums are greater than those usually found in workhouses or private dwellings, we have, however, still to ask whether an argument founded on this fact is to hold simply with regard to lunatics, and is not to extend to paralytics and the whole host of sufferers from chronic maladies who retain their sanity, and who accordingly, as a rule, have more capacity for appreciating comfort than those whose mental powers are destroyed or impaired. True, an old and reputed incurable case occasionally recovers reason in an asylum; but this argument in favour of indefinitely prolonged asylum treatment rests, even at the best, on a very narrow basis, and loses whatever value it might appear to have, in the consideration that recovery would probably have equally taken place in a poorhouse

or private dwelling. The truth is, that time and not the asylum is here the remedial agent."

During the past year the commissioners have been appealed to on the question as to whether the guardians of a union have a right to visit their patients in the wards of the asylum, and to satisfy themselves of the quality of the food provided for them. A dispute had occurred between the committee of visitors of the Hull Asylum and the guardians of the Scalcoates Union on this point; and the question raised was ultimately referred to the law officers of the crown, who appear to have decided that the guardians "are empowered to visit the pauper patients belonging to their union in the apartments and places where they dwell, and are entitled to inquire into the treatment, means of subsistence, comforts, and requisites of such patients, as far as such particulars can be ascertained from the personal visits to and examination of the patients themselves, in their wards and apartments, &c." This is the whole of the opinion given; it is decisive as far as it goes, but it would have been interesting to have had the whole of it published, especially as the last words seem to indicate some fine subtle legal qualifications forthcoming. One can easily understand that a body of guardians, who are not always the most discreet and prudent of men, might do some mischief in a ward by pompously putting through his examination one of the patients of their union, with the view of satisfying themselves of his condition; but we have sufficient faith in the good qualities of even guardians to believe that they would, if duly warned, avoid any such indiscretion. And we certainly hold that, as representatives of those who pay for the patients, they ought to have the right to examine fully into the condition of the patients for whom they pay. This they could hardly do if they were not allowed to see them in their wards. We dare say that it is sometimes a real comfort to the afflicted relative of a patient to hear of his welfare from the guardian of the district, and to feel that his case is not overlooked or neglected. Of course, there cannot be two opinions as to the impossibility of allowing the guardians to enter and inspect the asylum at will, just as if they were the authorities responsible for its management; to do that, would be to subvert all discipline, and to render good management impossible. But justice and good policy alike dictate the indulgence of as much liberty as is compatible with the maintenance of order in the asylum.

In the workhouses there was an increase of 148 lunatics during the year 1864, and probably a similar increase last year. There are now 688 workhouses in England and Wales, of which 104 have separate wards for the insane. The commissioners are now of opinion that enough has been done in the way of improvement by the authorities of some workhouses, to prove that "a larger proportion of imbeciles and old chronic cases of insanity might without

impropriety be retained in workhouses." Indeed, they report exceedingly favorably of the arrangements in some workhouses, and give a table of the cost of maintenance and attendance of each patient per week in them: the highest cost is at Camberwell, where it is 7*s.* 6*d.*, the lowest at Leeds, where it is only 4*s.* 6*d.* The complete and satisfactory arrangements in the insane wards of these workhouses may well suggest an instructive reflection: at one time it was thought impossible that the insane should be well taken care of in the workhouse, and the only rational plan was supposed to be to get them sent as quickly as possible to the asylum; it is now seen that, with proper inspection and attendance, many chronic insane may be very well cared for in the workhouse. It is the fashion to think still that the chronic insane cannot receive proper care in private dwellings: is it not very likely that, with proper supervision, this also might be successfully done, and another mistaken habit of thought be beneficially uprooted?

The important question has been asked of the Commissioners, whether the master of a workhouse might detain therein, against their will, paupers of unsound mind, and the Commissioners submitted the difficulty to the Poor Law Board, who thereupon submitted to their law officers the following question:—"Whether persons certified by a medical man to be insane, or idiots, but not dangerous, may be detained for a longer period than twenty-four hours in a workhouse, and if so, whether they may be detained so long as a medical officer shall certify to be necessary for their own protection." The Board were advised as follows:—"We think there is no power to detain on the ground of insanity, unless by reason of danger to the insane person or to others from his insanity." This seems distinct enough, but going on to apply this opinion to the question asked, they say that, looking to certain cases which they mention, "the guardians would be justified in so doing (that is, in detaining a pauper of unsound mind against his expressed wish to be discharged), if they could establish the insanity of the pauper and his unfitness to be at large." The Commissioners add: "In this opinion, with its limitations, we concur." So, perhaps, should we, if we were quite clear as to what it meant. What constitutes unfitness to be at large? The simple fact of insanity clearly does not. Is it only danger to the patient's self, or others? And if so, has every pauper insane person in a workhouse, who is not dangerous to himself or others, the right to walk out of it if he simply expresses his wish to do so? We certainly hold that the disabling penalties of insanity are made too stringent and comprehensive under the legislation and policy in fashion; indeed, we have a strong opinion that it is not sufficient justification for shutting any one up in an asylum or elsewhere, simply because some competent person is able to certify that he is insane; but we cannot see how to approve the doctrine,

that there is no warrant for detaining an insane person in a workhouse, but the fact of his being dangerous to himself or others. You may legally sequester an insane person in order to prevent harm to himself or others, but you may surely legally sequester him also in order to cure him, while there is hope of cure from the adoption of such means of restraint. Does this principle not apply to workhouses?

Several pages of the report are occupied with the detailed account of the casualties that have occurred in asylums during the year, and of the results of the investigations into the conditions of their occurrence. At the Wakefield Asylum one patient was instantaneously killed by another, who had got hold of an iron shovel. At the Rainhill Asylum a man died four days after admission, with severe injuries which he had previously received in the workhouse. The coroner's jury returned a verdict of manslaughter against the pauper assistant in the workhouse, and the Commissioners preferred a bill of indictment against him at the assizes. There was no evidence, however, to show by whom the fatal blow had been inflicted, and the prisoner was acquitted. Thereupon he was arraigned upon the indictment for ill-treating and assaulting the deceased patient; but this prosecution also failed, because the prisoner was not a *paid attendant* in the workhouse, and the judge thought that the prisoner had not the care or charge of the deceased within the meaning of the Act. If the construction of this Act were as Mr. Justice Mellor ruled on this occasion, it would certainly be a very strong reason for insisting on the employment only of *paid* attendants in the insane wards of workhouses. The Commissioners, justly dissatisfied with the result, afterwards submitted to the law officers of the Crown the question, whether the enactment in the Act 16 and 17 Vict. c. 96 included *unpaid* attendants on lunatics, such, for example, as an unpaid pauper inmate of a workhouse, placed in charge of a lunatic within the workhouse; and the reply of the Attorney-General and Solicitor-General was:—"We think that the question should be answered in the affirmative." It is well known to be a very discreditable thing to medical men, and most damaging to the pretensions of medicine, that they should differ sometimes about the interpretation of the most abstruse, complex, and obscure facts of science; but it may perhaps be deemed highly creditable to the acuteness, subtleness, and ingenuity of the legal mind, that the highest legal officers of the land should be able to differ so completely as to the interpretation of a few simple words in an Act of Parliament.

Frequent irregularities having occurred in the medical certificates, as well as other documents comprised in the notices of admission sent from asylums to the Commissioners' office, they take occasion to point out the extreme importance of strictly complying with the

legal forms, and the grave penalties of neglecting to do so. The copies of medical certificates and other documents have no value unless they are *strictly accurate* copies, "even to the smallest and apparently unimportant errors of orthography." When, therefore, as the Commissioners have found is sometimes done, the irregularities are overlooked, or quietly removed in the copy sent to their office, the patient has never been legally detained, should be considered as discharged, and has a just right of action against those who have detained him. There can be no doubt of the great difficulties in getting the different documents necessary for the admission of a patient into an asylum properly filled up; but where the issue to the patient—the deprivation of his liberty as a person of unsound mind, is of such momentous importance, difficulties ten times greater than actually exist would really be insignificant and unworthy a moment's thought, in comparison with the great and serious responsibility of glossing over any irregularity. It was a practice in one of the ancient states of Greece, we forget which, that any one who proposed a new law should appear with a halter round his neck, in order that he might be forthwith strangled if his proposition was not adopted: most of our readers will be ready to agree that any one *knowingly* sending an untrue copy of certificates and other documents to the Commissioners' office, should do so under the well understood penalty of being debarred, if found out, from having the opportunity of ever again practising such illegality.

Attention having been called to the question of the validity of certificates signed by medical men, out of England and Wales, as authority for the detention of insane patients in English asylums, it has been decided that such certificates are not valid. All patients whom it is desired to place in an English asylum must for the future be examined and certified for somewhere in England or Wales; so that a Scotch or Irish practitioner, wishing to send his patient to an English asylum, cannot himself certify unless he accompanies the patient to England. The commissioners regret their decision, but the law leaves no alternative. Perhaps the Scotch and Irish commissioners, when they look into the matter, may feel themselves compelled to come to a similar decision with regard to English practitioners. We should not be at all surprised by the announcement, for a new example of inharmonious, inconsistent, and incoherent legislation will be nowise strange to any one whose experience has made him acquainted with the discordant results of independent lawmaking, in the different parts of the so-called United Kingdom.

SCOTLAND.—The total number of insane persons in Scotland on the 1st January, 1865, was 6468; of these 3005 were males, 3463 females; 1076 were private patients, 5392 paupers. Of the paupers, 1630 were in private dwellings; of the private patients,

only 21. There has been a steady large increase of the number of pauper lunatics in establishments, and a steady slight decrease of those in private dwellings during the last few years. The number of private patients, whether in establishments or private dwellings, has undergone no material increase during the last seven years. "This difference in the growth of pauper and private lunacy depends not so much in the smaller proclivity of the wealthier classes to insanity, as on the pauperising tendency of the malady, which leads to a considerable number of patients being every year transferred from the category of private lunatics to that of paupers. The influence of asylum extension in promoting this change is very considerable, as from the cost of maintenance being materially greater in establishments than in private dwellings, the funds of the patient and of his relatives are sooner exhausted when recourse is had to asylum treatment, which, with the increase of accommodation, becomes of more frequent occurrence."

The report of the Scotch Commissioners is remarkable, as usual, for its complete series of elaborate and carefully compiled tables, in which the history of the insanity of the country, from the date of the establishment of the Lunacy Board, is faithfully presented. An interesting table, giving the number of pauper lunatics intimated in the seven years—1858-1864—distinguishing between those placed in asylums and those left in private dwellings, shows that the intimations were more numerous in 1864 than in any year since the constitution of the Board, with the exception of 1858 and 1859, when they were abnormally increased by the effects of the first visitations. "This increase," the Commissioners say, "is dependent on no law which we can trace, unless it be the general one, already noticed by many observers, that whenever accommodation is provided patients are sure to appear to occupy it." They are of opinion that more freedom might fitly be accorded to parochial boards in the removal of pauper lunatics from asylums, provided that adequate authority were given to the Board to prevent the discharge of manifestly improper cases, and to ensure the retransmission to asylums of all such patients as might be considered unfit inmates of private dwellings. A table gives the average daily rate of maintenance of pauper lunatics in each county, and shows that the general average of the different counties was $1s. 3\frac{3}{4}d.$ in public and district asylums, $1s. 4d.$ in private asylums, $1s. 0\frac{1}{2}d.$ in poorhouses, and $6d.$ in private houses.

It is quite plain that the views of the Scotch Board of Lunacy, with regard to the question of what is to be done with the insane, differ much from those of the English Board. The inevitable result, if it has not been the express aim, of the policy adopted by the latter, has been to force the insane, pauper and private, into asylums; but it is evidently not the aim of the Scotch Board to place every class of the insane poor in district or other asylums, but rather

to secure the co-operation of the parochial authorities for the satisfactory care of some of them in private dwellings. The admirable report of Dr. Mitchell, already referred to, and a report also of Dr. Paterson on the single patients visited by him, prove a considerable amount of success in the realisation of these views. Dr. Mitchell writes as follows :—

“Of the general condition of the single patients in these fifteen counties I am able to report more favorably this year than I have done on any previous occasion. Since 1858 it has undergone a steadily progressing improvement; but this has been more especially apparent during the last four or five years, and in a large majority of the whole it may now be regarded as satisfactory, in the sense that a fair and reasonable provision has been made for the care, comfort, happiness, and general well-being of the patients. . . . Of the single patients, with whom the Board first dealt, there was a certain proportion pronounced satisfactory, and this proportion has gone on steadily increasing, while the proportion of unsatisfactory cases has steadily decreased. It is not probable that we shall ever be able to report of the whole that they are satisfactory; just as it is not probable that we shall ever be able to report of all establishments for the care of the insane that they are satisfactory. It will be a sufficient and, for practical purposes, a complete success, if the unfavorable cases be reduced to a trifling per-centage of the whole; and this, judging from experience, may be attained.”

We regret that we have not space to quote Dr. Mitchell at greater length. He goes on to point out that no case of assault among single patients has been reported or become known to the Board; that no case of suicide is known to have occurred among them; and that the mortality among them has hitherto been considerably less than among patients in those lunatic wards of poorhouses which are licensed for chronic and incurable cases only, that is, for the same class of cases which exists in private dwellings. Taking the number of pauper single patients as 1637, and the cost of each per day as 6*d.*, the whole cost of these would be £14,937; whereas in poorhouses it would have been £30,489, and in district asylums £40,206. “There is thus, by retaining these patients in private dwellings, a yearly saving to the country of either £15,552, or of £25,269, according to whether they would otherwise be provided for in poorhouses or asylums, the lower estimate of the saving being £15,000 per annum. The first cost of providing the necessary accommodation, at £55 for each patient, would be £90,035.” After pointing out that the consideration of expense, though not the first consideration, cannot and should not be overlooked, and that the amount of happiness acquired is not always in proportion to the sum paid out, Dr. Mitchell says :—“There are now about 15,000 incurable and fatuous paupers in Scotland disposed of in private dwellings, for whose care, in my opinion, a reasonable provision has been made, and whose happiness and comfort would not be increased by any other mode of management. They enjoy life more, and will live

longer than they would if placed either in poorhouses or asylums, and to leave them where they are is the course which is at once humane and economical." Dr. Paterson, as one also to whom it has been entrusted to carry out the policy of the Board with regard to single patients, feels "bound to say that every year evidences of its beneficial effects are seen." We are sorry that we must here take leave of these interesting reports of the Deputy Commissioners; they well deserve, and ought to receive, the careful attention of all those interested in solving, in the best possible manner, the great question as to the most humane, just, and economical disposal of the insane poor.

Some pages of the report are occupied with details of the general condition of the different asylums, public and private. It is gratifying to perceive, from the details given, the evidence of a steadily progressing improvement where improvement was thought to be necessary. The general condition of the insane in the different poorhouses is, on the whole, favorably reported upon.

Towards the end of the report the Commissioners say that they consider it desirable that opportunities should be afforded to persons unable to resist the disposition to excessive drinking to place themselves under control and treatment without authority from the sheriff; but they are at the same time strongly of opinion that every institution receiving inmates for this purpose should be placed under statutory provision. The dipsomaniac is verily as troublesome as the negro to deal with, and it is quite as difficult a question to know what to do with him. It would be interesting to have some authenticated results of treatment in such cases, in order to guide opinion as to the proper course to pursue. Our experience has been that though the dipsomaniac might go on very well while he was restrained from the indulgence of his propensity, he invariably returned to his vice when opportunity offered, like the sow to its wallowing in the mire. So disheartening, indeed, has the issue been, that we have sometimes swerved towards the desperate opinion, that the best course is to permit the unhappy beings to drink, without interference, and to perish and pass as quickly as possible to their self-sought graves. There only will they obtain deliverance from the fatal passion which has wrecked and ruined their lives: there only, where it ceases to beat more, will their passion-tossed heart attain its true rest.

IRELAND.—On the 31st December, 1865, there were 8845 registered lunatics in Ireland, as against 8272 on the corresponding day of the previous year. Of these, 4403 were males; 4442 females; 4835 were in public asylums, 2733 in poorhouses, 505 in gaols, 583 in private asylums, 64 in Lucan, supported by government, and 125 in the Central Asylum for Criminal Lunatics. Throughout the provinces there are still very many for whom no

suitable accommodation can be found, and who are not under proper care and treatment. It appears, then, that the number of registered lunatics increases in Ireland, notwithstanding the decrease of the population from emigration and other causes.

The Inspectors, while insisting upon the necessity of an adequate provision being made for the wants of the insane poor, at the same time lay stress upon the desirability of restricting asylums, so expensive in their construction and maintenance, to those whose maladies give reasonable hope of recovery, or who require constant supervision, both for their own protection and that of others—in short, of making them as much as possible hospitals for the curative treatment of the insane rather than receptacles for their safe keeping. They would wish to have intermediate places for a portion of the chronic and incurably insane; and this end might be attained, they think, easily and economically, by fitting up portions of the work-houses for such cases. Boards of guardians have objected thus to take charge of the insane, no matter how tranquil or incurable they might be; but the objection gradually becomes less strong, and will, no doubt, wear out when guardians realise the fact that, “with a little extra cost and attendance, they can comfortably maintain the hopelessly demented and idiotic at one half the expense incurred for their support in regular asylums.”

Taking one asylum with another, the average cost for the seventeen now in operation is £20 7s. 6d. per head per annum, or one shilling less than it was in 1864. This is estimated to be about 30 per cent. less than it is in England.

At page 13 of their report the Inspectors make the remarkable statement that idiocy, in the true acceptation of the term, is very rare in Ireland. There are many to be found utterly demented as the result of epilepsy and mental disease, but their inquiries have resulted in the conviction that not many idiots are to be discovered. They then go on to speak of imbecility, and take occasion to express their opinion, “that in five cases out of six, the prevalent character of imbecility does not interfere with the exercise of social rights, the enjoyment of personal liberty, and the fulfilment of social obligations and responsibilities.” The social rights and responsibilities of an Irish peasant in many parts of the country are probably not at a very high level, and this consideration will render the statement less extraordinary than it might appear at the first blush. Indeed, we might, perhaps, derive from it a hint applicable to England; for we have fancied we have now and then met with a patient detained in an English county asylum as stupid or imbecile, who really evinced no more intellectual deficiency than was habitual to the neglected class from which he came, but whom a superintendent, not familiar with the Bæotian stupidity of the lowest agricultural labourers, has thought to be downright imbecile or demented. It is truly aston-

ishing how difficult it becomes—and we speak from our own experience—for one who has the management of an asylum, and is constantly seeing or looking for signs of insanity in those under his care, to recognise sanity where there is any falling short of, or deviation from, a certain arbitrary standard, which has been incorporated in the habit of his thought. Individuality has notoriously but a small chance in the outside world; but it is, perhaps, even a more perillous quality for its possessor in an asylum. To differ from the received opinion and practice on some point not entirely insignificant inevitably renders a man *suspect* to the tyrannical majority, which deems itself not simply sane but extremely wise; but to evince such difference in an asylum would be to afford what is sure in many cases to be considered absolute proof of the continuance of the madness. Herein there lies a reason why superintendents may rightly welcome the visits of guardians and others from the outside world, and receive gratefully their criticisms, however absurd these may seem; for the greatest kindness that can be done to any one sincerely wishful to have sound opinions and to grow in knowledge is to disturb rudely his usual routine of thought, and thereby to compel him either to correct and enlarge his views, or to satisfy himself thoroughly of the grounds of them, and thus to render them more definite, clear, and certain.

The experience of the past year has confirmed the experience of previous years, that the most prominent causes of insanity are hereditary predisposition, dissipation, and irregularity of life.

In Ireland, as in England, there is a pressing want of asylum accommodation for insane persons of limited means—those who are not wealthy enough to meet the expenses of a private asylum, nor are yet poor enough to be legitimate paupers. “We have reason to think that a considerable number of this class are either retained at home by their friends, wanting the necessary requirements and comforts of their helpless condition, without proper or even any medical or moral care or treatment, and consequently deprived, we may say, of all chance whatever of recovery; or else they are placed out, under cover of the name of “lodgers,” with people of very humble position, to whom the small sum received for their support is a thing of consequence, and where their condition is perhaps worse than at home.” We would suggest, however, that there is no insurmountable reason why this evil state of things should continue as it is; does not the experience of the Scotch Lunacy Board prove satisfactorily that the condition of these neglected creatures might be very much improved by a system of regular visitation and supervision? It can hardly be doubted that if an additional inspector or a deputy-inspector were appointed, whose duty it should be to visit these single patients, and to look after their welfare, much might be done for them. If the payment made for

their support is a matter of consequence to those who receive them, we think they might be induced to increase their comforts rather than lose them. It would probably be found that those who at present receive these insane "lodgers" do not sin from any deliberate cruelty so much as from want of proper instruction—that they still entertain those unenlightened views with regard to insane persons which fifty years ago prevailed in almost every asylum. And as the experience of the English commissioners proves that even workhouse authorities, when duly instructed, and penetrated with correct views of the requirements of the insane, can take most excellent care of them; so it is almost certain that a like beneficial reform might be effected in the practice of those who receive into their houses single patients as lodgers, if a similar just reform were effected in their opinions, through the powerful agency of official instruction and inspection. It is quite time, at any rate, to have done with the "sensational" accounts of single patients, of which it has been the fashion to make so much in newspapers; they are evidently very much exaggerated in most instances, and cannot, therefore, in the long run serve the real interests of the insane. One of the last examples of the kind in England, which was made a town's horror and a three days' wonder, turned out, we believe, when examined into by the Commissioners, not to be a case of insanity at all. Newspaper reporters are notoriously on the look-out for events out of which they may prepare a "sensation" for the public; and it is necessary to receive their reports with great caution. If we look at the matter with an unbiassed spirit and from an unprejudiced stand-point, it really seems most strange that any one should be thought to owe an apology for keeping his insane relative under his own care, when the apology is really due for sending him to the care of strangers. Undoubtedly, in the great majority of cases, that apology will be a perfectly satisfactory one; the nature of the disease, the true interests of the patient himself, and a thousand other circumstances, may render it a duty to send him from home; but this is not a sufficient reason why in some few cases those who adopt a different course should be mercilessly held up to public reprobation as criminals. If the arrangements made for the lunatic in a private house cannot be approved,—and in all cases they should be officially examined, and not less frequently than is done by the Chancery inspectors in the case of Chancery patients,—there is still the possibility of satisfactory improvements being made under proper representations. We are convinced that most of those who keep their insane relatives in private dwellings (and this is especially the case with the poor) do not do so because they wish to treat them unkindly, but because they wish to save them from what they think unkind treatment; and in dealing with them it will be just and judicious to assume that they are anxious to do

their duty by them, and to instruct them in the way to do it, rather than at once to assume the worst motives, and hastily to act as if the assumption was fact, which is too much the present popular fashion. In making these remarks, we do not wish for a moment to suggest an entire change in the course of action pursued in dealing with the insane, but if possible to foster a more liberal habit of thought in the public mind with regard to them—a better habit of thought which may ultimately modify many actions and feelings that come within its scope.

In taking leave of these reports, and bringing to an end these discursive remarks, we shall seize the opportunity to direct attention to three declared tendencies, of silent and steady growth, which are discoverable in the scientific and practical fields that belong to insanity. The first is scientific and philosophical; the second may be described as principally professional; and the third, though professional, is of social and administrative importance.

First, then, let us say a few words upon the course of scientific progress. In the motto placed on the face of this Journal, and in the spirit in which it is conducted, that tendency is, we venture to think, distinctly expressed; it is the unmistakeable tendency which a wayfaring man, though a fool, cannot now fail to perceive, to a positive science of mind, based upon the inductive study of its physiological and pathological phenomena. The purest metaphysicians can no longer ignore, no longer strive furiously against, a deep and strong current which they have long striven against, but striven against in vain. He will require stronger arms than any metaphysician ever possessed who would swim long against *that* stream.

Secondly, there is a beneficial tide setting in which is of professional and social importance. It is the foreshadowed reconciliation of the alienistic specialty, hitherto most mischievously isolated, with the rest of the profession. Better were it that the care of the insane were still in the hands of keepers not medical men, as it once was, than that medical men having the care of the insane should be cut off from the scientific spirit of the profession, and become mere keepers of them. A co-ordination and integration of results must rightly accompany the specialisation of science and art which necessarily takes place in the social division of labour; and it can only be a question of time how long any branch of medical science and practice will take to decay and die when it is separated from the trunk. The fruits of its cultivation are wasted when they are not received into the general body of doctrine, where, usefully modifying some of the current views, they may in turn be beneficially modified by them. How preposterous it is that one set of men should be engaged in the study of the diseases of the brain and nervous system, and that another set of men should be engaged in the study of diseases of the mind and brain, and yet that no regular intercommuni-

cation of thought should take place. The time will come when the existence of such a state of things will hardly be believed to have been ever possible. At present, however, it undoubtedly exists, and excites no surprise; and the blame of it rests partly with the profession and partly with the specialty. The complete and shameful neglect with which mental diseases have been treated by the medical schools and corporations, and are still treated by most of them, has been the cause of a total ignorance of mental diseases on the part of the profession at large. Practically, there is even now as little thought taken of these most important diseases—important not only as diseases of the highest function of the highest organ in man, but because of their wide-reaching social consequences—as if they were on no higher level than the windy rumblings of a hippopotamus's bowels. On the other hand, the inevitable tendency of this baneful isolation on those engaged specially in lunacy practice has been to hinder scientific development, and to lay them open to the not entirely unjust reproach of "sinking science in economy—to make them lose their character as physicians or healers of disease, in their functions as house-stewards or keepers of lunatics."* In his excellent paper on the "Pathology of Nervous Diseases," published in the last volume of the 'Guy's Hospital Reports,' Dr. Wilks says:—"I regret to find that, in the reports which are abundantly heaped upon us from lunatic asylums, the work of the mere secretary or superintendent so much overshadows that of the physician, and that the scientific value of these pamphlets is altogether sacrificed to their business character." Considering to whom these reports are addressed, we are not so much surprised at the character of them as Dr. Wilks naturally is; and we might fairly in turn suggest a reproachful reflection to his candid mind. The hospital to which he is attached, and of which he is so distinguished a support and ornament, receives every year nearly one hundred students, to educate them and fit them for the practice of their profession. And yet we believe that this wealthy hospital makes no sort of provision whatever for affording its students any instruction in mental diseases. They leave it to practise their profession with such knowledge of them as they had when they entered it to learn their profession.

However, it is gratifying to perceive signs that the line of separation between the medico-psychological specialty and the rest of the profession cannot endure much longer. The London University, with the express purpose of removing it, has specially directed the attention of all candidates for its medical degrees to the importance which it attaches to a knowledge of mental diseases; and two of the medical schools have at last instituted lectures on the subject. The specialty has, in its turn, by adopting the new name of "Medico-psychological Association," evinced a desire to extend its sphere of

* 'Lancet,' April 28th.

action, by embracing in its ranks men not specially engaged in the practice of lunacy, but interested in the scientific study of mental diseases. And it cannot but count it a happy omen of a better era to have recently enlisted among its members a physician so eminent in medical science as Dr. Wilks.

The third tendency, which some think they can trace, is of a more doubtful character, and may, perhaps, not unreasonably be disputed. It is the apparent tendency no longer to leave the treatment of the insane exclusively to those who have specially devoted themselves to it. There can be no doubt that a great deal of the early treatment of insanity amongst private patients now falls into the hands of ordinary practitioners, and of those physicians who are specially eminent for their studies of nervous diseases, and that the disease often comes under the observation and care of alienists only when it becomes necessary to send the patient to an asylum. We should be loth to undertake to commend their treatment in every case; indeed, we could give some striking instances of what might be justly described as remarkable diagnosis and remarkable treatment, especially in regard to general paralysis; but we cannot help seeing in the fact the natural reaction against the notion which appears to have sometimes taken mischievous possession of the minds of alienist physicians, that the only object of a medical consultation on a patient suffering from insanity was to arrange steps for sending him to an asylum. This "asylum view" of the case, as it is sneeringly named, is certainly not in great favour with the profession just now, whatever be the cause; and it may be well, therefore, to signalise the seeming tendency of thought, without pronouncing any judgment upon it. We might err, perhaps, in attaching a greater significance to it than it really has; for we should certainly feel disposed to attach considerable significance to it.

Does it not seem strange that so little honour or reward should have fallen to a branch of medical practice, the exertions of which have effected one of the greatest reforms of the age? The humane treatment of the insane cannot fail to be quoted through all time to come as one of the chief glories of this century. And yet to have been the means of accomplishing it seems to be no title to gratitude and honour, but a title rather to neglect and distrust. Long contemned by the public, the alienistic specialty has striven for years, and still in vain strives, to obtain due recognition from its own profession; against the lawyers it has in vain fought, yet undismayed still fights, the battle of humanity and justice; it is even now heart and soul engaged in maintaining the just cause of positive mental science against a vain and fruitless metaphysical philosophy. These are its great virtues, but its faults have been not less great. And so it has come to pass—and from one point of view it is nowise strange—that this branch of medical practice is so much despised and

rejected of men. On another occasion we shall be at the pains of pointing out what we conceive to be certain defects yet discoverable in the laws enforcing, and in the means for carrying out, the care and medical treatment of the insane. If in so doing we disturb in some degree that indolent sense of security whereby men are so prone to cry "Peace" when there is no peace, we shall endeavour to make compensation by indicating the reforms needed, and by pointing out on the distant horizon the seeming dawn of a brighter and a better era both for the insane and for those who minister to their care.

H. M.

A Practical Treatise on Apoplexy (Cerebral Hæmorrhage); its Pathology, Diagnosis, Therapeutics, and Prophylaxis: with an Essay on (so-called) Nervous Apoplexy, on Congestion of the Brain and Serous Effusion. By W. BOYD MUSHET, M.B. Lond. Churchill and Sons, London, 1866. Pp. 194.

It is to Part I of this volume, entitled 'Apoplexy' (Cerebral Hæmorrhage), that we shall chiefly devote our attention; Part II being an essay reprinted from the 'British and Foreign Medico-Chirurgical Review,' Vols. XXXVII-VIII, and which has therefore been before the public for several months past.

From the preface we learn the object of the writer. "I have attempted," he says, "to extricate apoplexy as a substantive disease from an assemblage of symptoms, *i.e.*, from the multiform phases of Coma." "My views are based on experience, on practice; and I entered on the subject free from bias or pre-conception, the constancy of cardiac lesions first suggesting, and, indeed, instigating the inquiry." He adds, "My argument also, I fear, is short of convincing." With this last remark of the author we are unfortunately compelled to say that we entirely agree; though we cannot but acknowledge the very large amount of labour and thought that has been devoted to the consideration of a most difficult question.

For all efforts made in the direction of simplicity and unity (to quote our author) we are indeed grateful. But *his* efforts in this particular case are eminently unsuccessful.

Is apoplexy a substantive disease?

Is cardiac lesion a constant factor in that disease?

"A precise definition is exceedingly important, as *Apoplexy* should be regarded as a disease, not a form." Dr. Mushet rejects every definition that has been given by other authors, excepting perhaps that of Dr. G. B. Wood, of Philadelphia (but on this point more hereafter). He tells us that "*Apoplexy may be defined as a more or*

less sudden impairment of the functions of the brain and nervous system, of consciousness, motion, and sensation—from extravasation of blood into the substance, or upon, or between the membranes, of the brain, arising from internal causes.” This definition of course excludes simple congestion, serous effusion, and the (so-called) nervous apoplexy; whilst *apoplexy* and *cerebral hæmorrhage* appear (with Dr. Mushet) to be convertible terms. Let us contrast with this opinion that of one who is a true philosopher and a noble ornament to our profession. Dr. Mushet appears to have entirely overlooked the Clinical Lectures of Professor Trousseau, published in Paris in 1862, and of which so excellent an edition in English was commenced at the beginning of this year by Dr. P. Victor Bazire. We earnestly commend these lectures to his careful notice. Every word of them should be deeply stored in the memory of each one of us. What does Professor Trousseau say on this subject? *

“Observe that I do not use the word apoplexy, and purposely so, because there is a great difference between cerebral hæmorrhage and apoplexy, although some confound them still, in spite of the majority of our classical authors who try to do away with this deplorable confusion. Now what is meant by apoplexy? According to its etymology, it means an affection in which, as the Ancients described it, an individual falls, and is struck down suddenly, like an ox felled by the butcher. ‘Apoplexia dicitur adesse quando repente actio quinque sensuum externorum, tum internorum, omnes que motus voluntarii abolentur, superstite pulsu plerumque forti, et respiratione difficili, magnâ, stertente, unâ cum imagine profundi, perpetuique somni.’ And if to this short sketch of Apoplectiform phenomena, given by Boerhaave, you add the definition of Paulus Ægineta, that this abolition of consciousness and of the sensibility of the whole body is caused by an affection of the sensorium commune (communi nervorum principio affecto), you will know what is meant by apoplexy.

“You understand now why this term and that of hæmorrhage should not be considered as synonymous. On the one hand *apoplexy* is a generic term which must be specified, because apoplectiform phenomena are often connected with pathological conditions very different from hæmorrhage.” We have given this quotation *in extenso*, because it places before us so clearly the fundamental difference between the opinions of Dr. Mushet and Professor Trousseau. The conclusions of the latter strike us with conviction as to their accuracy, and fill us with confidence in the truly philosophic spirit that has dictated them. Apoplectiform phenomena, as Professor Trousseau states (p. 4, Engl. ed.), may be the result of *cerebral*

* Lect. I, p. 3, English edition. Lect. LII, vol. ii, p. 269, French edition.

softening, of a large accumulation of serum in the ventricles, or of *congestion* carried to the highest point, though such cases are very rare. *Embolism* and the so-called *nerrous apoplexy* may in his opinion produce similar results, whilst on the other hand he believes that hæmorrhagic clots can exist in the brain without any impairment of the intellect, and affection of the senses; "in fact, without any symptom indicating that the brain has been deeply modified in its functions."

Dr. Mushet gives (pp. 15—17) a summary of the opinions of various writers on what Dr. Abercrombie described as "this curious subject," viz., the cerebral circulation.

He then proceeds to the consideration of the second *great point* in his treatise, viz., the *constant* connection of cardiac lesion with apoplexy; and to support his view, he gives us reports of ten cases which have come under his own observation during his residence at the Marylebone Infirmary, we believe. But that we may not mislead our readers, and thus do an injustice to Dr. Mushet, we must anticipate our remarks on this question by stating that he by no means wishes us to understand that hypertrophy of the left ventricle of the heart (for such, we conclude, is the special cardiac lesion to which he refers) is the *sole* cause of apoplexy, but that this cardiac lesion, and disease of the cerebral arteries combined with it, are co-efficient factors (to use his own words) in the production of this formidable pathological condition.

Before we discuss minutely these cases reported by Dr. Mushet, we must refer to his remarks (pp. 86, 87) on Sir Thomas Watson's opinion on this subject. "*He acknowledges*," Dr. Mushet says, "*the frequent co-existence of cerebral hæmorrhage and hypertrophy*, but ascribes the latter to diseased and dilated conditions of the aorta, and thinks the associated changes are the concomitant effects of the same cause."

According to Sir T. Watson, when the arteries of the brain are ossified or changed, or rendered brittle in any way, the commencement of the aorta also is found, in a majority of cases, to be the seat of similar alterations. The elasticity of the vessel is seriously impaired by deposits in its inner tunic, the free passage of the blood is impeded, and hypertrophy of the left ventricle is the natural compensation for this state of the aorta. "The strength of the left ventricle, therefore, in such cases, is not a true measure of the force with which the blood is driven into the distant arteries; quite the contrary: it is a measure of the *difficulty* with which the blood is circulated through the *primary branches*, and therefore through the entire system of the arteries. It indicates the *diminished* force with which the blood is likely to reach the cerebral vessels."

We wish particularly to direct attention to our author's criticism of Sir T. Watson's opinions on this subject, because it appears to us

that in every detail the argument of the latter is confirmed by an analysis of Dr. Mushet's ten cases. We must premise that cerebral hæmorrhage was observed in all of them, and that where the heart was examined there existed hypertrophy of that organ. We subjoin, in a tabular form, an abstract of those cases, so far as our proposition is concerned.

- CASE 1.—J. G., æt. 63.—Lungs emphysematous. Coronary arteries atheromatous. Aorta slightly so.
- „ 2.—S. A., æt. 72.—Lungs emphysematous. Aorta and coronary vessels atheromatous.
- „ 3.—E. S., æt. 72.—Bronchitis. Coronary arteries atheromatous. Fibro-calcific deposits in mitral and aortic valves.
- „ 4.—J. T., æt. 70.—Lungs congested; gorged with serum. Coronary arteries atheromatous. Traces of atheroma in the aorta.
- „ 5.—D. Q., æt. 68.—Lungs engorged and emphysematous. Coronary arteries atheromatous. No valvular disease.
- „ 6.—R. B., æt. 68.—Lungs congested and emphysematous. Heart not weighed.
- „ 7.—C. H., æt. 72.—Lungs emphysematous.
- „ 8.—L. W., æt. 46.—Lungs emphysematous. Aortic valve thickened by fibrous deposits, and the orifice much contracted.
- „ 9.—J. S., æt. 54. } No examination of thorax or abdomen.
- „ 10.—S., æt. 64. }

We observe that in five of these cases there were atheromatous or fibro-calcific deposits in the aorta at its orifice, or in the thoracic portion of that vessel; that in one the report is, “no valvular disease;” in two others there is no mention at all made of the condition of the aorta; whilst in the last two cases the thorax was not opened. In none of them is any allusion made to the *impulse in the carotids*, whether increased or diminished; so that we have no means of estimating the effect on the brain of the hypertrophied condition of the heart. We must again repeat our conviction that in no single detail do these ten cases militate against the teaching of Sir T. Watson.

In reference to them we must also observe that they do not appear to us to warrant our author's appeal to Dr. Clendinning's observations as confirmatory of his own. The latter noticed that hypertrophy of the heart was accompanied by an increase in the weight of the brain; that in the cases noted by him the average weight of that organ was $52\frac{1}{2}$ oz., the average weight of a healthy brain being $50\frac{1}{2}$ oz. in the male, and 44 oz. in the female. In Dr. Mushet's cases 1 and 2 (in which alone the weight of the brain is noticed), it is 42 oz. and $42\frac{1}{4}$ oz. respectively, the first being that of a man, and the second that of a woman. Hence we cannot conclude that hypertrophy of the heart was productive in these cases of increased cerebral circulation.

Our remarks must now be brief. The chapter on ‘Treatment of

Cerebral Hæmorrhage,' and the essays 'On (so-called) Nervous Congestion of the Brain and Serous Effusion,' may be profitably compared with the invaluable teaching of Professor Trousseau, in his lectures on 'Venesection in Cerebral Hæmorrhage and Apoplexy,' and on 'Apoplectiform Cerebral Congestion, and its relation to Epilepsy and Éclampsia.'

As regards the connection between renal disease and apoplexy, we think that our author has scarcely done justice to Dr. Todd's observations on the same subject. He has entirely omitted to notice the interesting and varied paralytic phænomena connected with cerebral hæmorrhage, and which are so ably recorded in Dr. Todd's Clinical Lectures.

Will the author forgive us if we point out a serious error? In restricting the term apoplexy to cases of cerebral hæmorrhage, he says that his view is supported by that of Dr. G. B. Wood, of Philadelphia. Now, from 'Wood's Practice of Medicine,' vol. ii, p. 656, 4th edition, we learn that in many cases of apoplexy it is quite impossible to determine whether hæmorrhage exists or not, and that in all cases of true apoplexy the symptoms are produced either by simple congestion of the brain, by hæmorrhage within the cranium, or by sudden serous effusion. It is therefore quite clear that Dr. Wood's opinions differ very much from those of our author. Such a mode of reference begets painful distrust.

We would earnestly entreat Dr. Mushet, before publishing again, to improve his style by the study of a few of our best writers, *e.g.*, Dr. Abercrombie, Sir T. Watson, Dr. Todd, and Dr. Burrows. He would then avoid the use of such ungrammatical sentences as may be found on pages 16 and 85, in the paragraphs commencing "Further, have physiologists," and "The proposition, I believe." The word "contendible," p. 95, must be an Americanism.

As regards the correction of the press, we trust that *we* shall be more fortunate than our author. "Lacunec," p. 43, for "Laennec;" "Rokitauski," pp. 70, 72, 79, for "Rokitanski;" "Bouilland," p. 87, for "Bouillaud;" and "Audral," p. 93, for "Andral," are unfortunate mistakes.

We close our review with one more extract from Professor Trousseau's 'Clinical Lectures':—"J'ai tenu surtout à vous dire et à vous redire qu'il fallait vous garder avec une égale sollicitude de l'insuffisance du savoir et de l'excès de la science, telle qu'on la fait prématurément pour la glorification des théories."

* Lect. LXXIII, vol. ii, p. 676.

A Treatise on Emotional Disorders of the Sympathetic System of Nerves. By WILLIAM MURRAY, M.D., M.R.C.P., &c. London: John Churchill & Sons. 1866. pp. 118.

WE welcome Dr. Murray's essay upon emotional diseases as a most useful contribution to medical literature, and as an important because unintentional acknowledgment of the claims of our own specialty to more extended study. Dr. Murray is an enlightened and thoughtful physician, who has not "narrowed his mind," and given up to physical diagnosis what was meant to explore the whole range of being, but who has encountered in his active professional work a vast number of things which are never dreamt of, in the philosophy of the schools. He has found out that the human machine is pervaded and sustained by mental forces; that these are eminent in authority in the human body, saying to health, Come, and it cometh; Go, and it goeth: that they control the progress of disease and the action of remedies, and that they are themselves altered in tone and character in harmony with the circumstances and conditions of the physical organization. He has searched the text-books for an explanation of these phenomena, and has found scarcely a passing allusion to them, and he has then set himself with commendable energy to make out the subject for himself, and to arrange and systematise the observations which were daily presenting themselves to him. The result of his inquiry is now before us, and we can only regret that a treatise, containing so much that is excellent, and emanating from so accomplished an author, should have been submitted to the profession and to critical examination when in a somewhat crude and unripe state. Dr. Murray has never attended a course of lectures on medical psychology, nor has he made himself familiar with the literature of our department, so that he is at the disadvantage of having to discover laboriously for himself truths that have been long established, while he sometimes wanders from the strict line of logical accuracy from ignorance of some of our most familiar syllogisms. He endeavours, indeed, to repudiate all connection with our specialty and to fence in for himself a sort of emotional hades, an intermediate state between the outer darkness of madness and the broad daylight of rational intelligence. We are bound to say that in this attempt he is lamentably unsuccessful, and only convinces us that he does not clearly understand what insanity is. The singularity of his views upon this point may be gathered from a sentence like the following: "The reasoning faculties may be diseased, volitional power shaken, and more or less imbecility of mind produced when decided insanity has not been reached;" which is just as if he were to say that we may have convulsions and unconsciousness when epilepsy has not been attained. The distinction

which he draws between insanity and emotional disorders, that in the first there is *delusion* as to facts which are patent to ordinary observation; and that in the second there is only a misinterpretation of facts, is of course quite untenable, and is capable of experimental contradiction at any moment, in any asylum in the country. We claim Dr. Murray as a medical psychologist in the first and mildest degree. He has gained access to our order by no mysterious rites, but by the study of morbid mental phenomena in their corporeal relations, and it will be in vain for him to renounce his allegiance while he describes hypochondriasis and melancholia in unmistakable colours, even though he labels them with new appellations. He has been investigating the genesis of insanity, its earliest buddings, and sometimes also its full-blown blossoms. We all know how universally madness betrays itself in the first instance in the affections or sentiments before it climbs higher or descends lower. We know how it sometimes expends itself in that region and does not ostensibly involve the other faculties. Some instances of this kind Dr. Murray has met with and has classed by themselves as emotional disorders, ignoring altogether their relation to a wider nosology. His chief aim seems to be to isolate the emotions from the mind generally, and the sympathetic from the cerebro-spinal nervous system, and to prove that the former are dependent on the latter for their corporeal effects, for their contraction or elasticity, and even for their specific forms. There can be no doubt that there is much truth in all this, and we are indebted to Dr. Murray for placing that truth ably and lucidly before us. But then he goes too far, and exaggerates the influence of the sympathetic while he depreciates that of the encephalon. One would almost think, to read some portions of his book, that he argued for the absolute supremacy of the ganglionic system. It cannot be disputed that the sympathetic is the earliest and most universal form of nervous system, and that it is in intimate communion with the higher centres and the organs of sense, as well as the viscera and skin, but this other fact is equally indisputable, that without the cerebral hemisphere there is no consciousness. He who would investigate emotional disorders on any other basis than that of cerebral physiology is certain to fall far short of his endeavours. We notice innumerable verifications of this and of the dangers and difficulties of an erroneous method in Dr. Murray's treatise.

The first section is devoted to a consideration of the effects produced upon the economy by the emotions, appetites, and passions; and with reference to this it is only necessary to observe that Dr. Murray is travelling beyond the record, and that the appetites and passions are very different from the emotions.

After a few very judicious remarks as to the manner in which such inquiries should be conducted, Dr. Murray broaches his

own peculiar topic, and refers to the visceral sensations which are produced by severe or violent emotions, appealing to self-consciousness and popular phraseology for confirmation of his tenets. In passing, we would only remark that it may be questioned if Dr. Murray is altogether right in tracing the popular reference of acute emotions to certain viscera solely to sensational experience; for we are not aware that the kidneys or the spleen ever afford any direct evidence of their sympathy with mental conditions. We suspect that anatomical suggestions had a good deal to do with the localization of the feelings in these organs. But, to return from this digression, our author next proceeds to sketch the local expression of the appetites, and the references given to their special sensations; after which he glances at the varieties of the emotions, and professes himself unable, for practical purposes, to adopt any classification of them, more detailed than that which separates them into an elevating and depressing order. We regret that he has not seen his way to any more satisfactory divisions of emotional experiences; for without assenting to the elaborate and minute classification of the phrenologists, we must point out that the emotions of egotism, of love, of hate, of terror, of remorse, of hope, of wonder, of power, of sympathy, are well defined, both in their nature and consequence. Having, however, dealt thus generally with the varieties of the emotions, Dr. Murray goes on to enumerate and account for their effects upon the cerebro-spinal system and the sympathetic system, dividing their effects upon the latter into those which are displayed in the heart, the arteries, the involuntary muscles, the secreting glands, the stomach, the liver, the urinary and the sexual organs. Here it is that we most regret Dr. Murray's want of a psychological training. He has collected together some most interesting illustrations of his subject, in addition to those already known; but he fails to perceive the bearing of general laws. He takes no notice whatever of that remarkable law, lying at the very foundation of his subject—that each emotion has its elective affinities in the physical frame, and expresses itself uniformly in a definite way. Every feeling that arises has the whole corporeal structure open to its influence; but it does not wildly and vaguely disperse its forces over this extensive field; on the contrary, it chooses out certain determinate channels of diffusion, and through these displays itself in the bodily organism. Mirth does not vacillate between the legs and the face, nor does it agitate the latter with varied distortions. It goes direct to the elevators of the eyebrows, the buccinators and zygomatici, just as pain eschewing these displays itself in the orbicular muscles, the depressors of the eyebrows and of the angles of the mouth. And so it is also with the glandular or secreting organs, for grief naturally betakes itself to the lachrymal glands, and fear to the salivary. Our anatomical knowledge does not yet enable us to know how this is brought about; but the facts are certain,

and must be regarded as analogous to the well-known preferences for certain localities, shown by many skin diseases. When emotions are great or intense they overstep their determinate boundary of expression, and inundate the system more or less generally. But when this is so, they do not desert their ordinary channels of outlet. They continue chiefly to diffuse themselves through these, and it is only, as it were, the surplus which is discharged elsewhere. Circles of emotional influence seem to exist in them; for those very muscles which give characteristic expression to the emotions are themselves capable of suggesting those very emotions of which they are ordinarily the exponents. Thus in somnambulism and the hypnotic trance the mere placing of the muscles in an attitude denoting the presence of some emotional state has been found sufficient to induce that very emotion. When the angles of the mouth are gently separated joyousness takes possession of the mind. When the eyebrows are drawn inwards and downwards, moroseness arises. Humility responds to the flexure of the head and knees, and anger to the firm closing of the hands. It is singular that Dr. Murray should have omitted all reference to these phenomena, which might have been used to strengthen one of the weakest and yet most vital parts of this essay—that which is intended to prove the power of the organic nerves to determine emotional states.

Dr. Murray discusses, in his second section, emotional disorders properly so called, according to his hypothesis. He describes, first, those dependent upon the digestive organs, and then devotes a chapter to the *modus operandi* of dyspepsia. He goes next to the generative organs, and deals with uterine affections, the change of life, and corresponding conditions in the male. He endeavours here to prove that “there are disordered states of the viscera which powerfully induce those emotions which are injurious to the body, these effects being produced through simultaneous disorders of the sympathetic system.” We have not space to follow Dr. Murray through his argument, and we would only express our belief that he has considered the subject in a partial light. The section on treatment is incomplete, many important agents being left unmentioned; and moral treatment, which is so efficacious in such affections, being scarcely referred to. Dr. Murray seems scarcely alive to the fact that we can, by any voluntary endeavours, regulate or restrain the current of our thoughts, or that we can alter our feelings, and substitute one for another, through the indirect influence of attention. We would strongly recommend this admirably suggestive book to the attention of our readers, and we would, at the same time, invite Dr. Murray’s attention to the literature of medical psychology—above all to the writings of Laycock, our eminent and learned associate. If he will accept this invitation, he will find his labours much lightened and circumscribed, and his hands materially strengthened in the treatment of emotional disorders.

PART III.—QUARTERLY REPORT ON THE PROGRESS OF PSYCHOLOGICAL MEDICINE.

I.—*French Psychological Literature.*

By J. T. ARLIDGE, A.B. and M.B. Lond., M.R.C.P. Lond., &c.

(Concluded from the 'Journal of Mental Science,' July, 1866.)

Annales Médico-Psychologiques.—The following original memoirs contained in the volumes of this Journal for 1865 were not included in the analysis presented in our July number, viz., "Case of Triple Infanticide," by Dr. Teilleux; "Remarks on the Utility of the Seclusion of the Insane," by Dr. Rousselin: on "Pellagra regarded from a Medico-Legal point of view," by Léon Sorbets; a "Medico-Legal Estimate of the Actual Condition of the Insane in France," by Briere-de-Boismont; "The Passions—the Influence of the Moral upon the Physical Nature," by Tissot; a "Medico-Legal Report on a Case of Parricide," by M.M. Voisin, Parchappe and Rousselin; one on a "Woman charged with Infanticide," by Dr. H. Bonnet; and a third on a "Husband charged with the Murder of his Wife," by MM. Daviers and Billod; a "Memoir on the effects of Insolation upon the Insane," by Brunet; a "Medico-Legal Report on the Mental State of a Lady, an inmate at the Charenton," by MM. Parchappe, Girard de Cailleux, and Rousselin; and one on a "Man accused of Forgery," by M. Legrand du Saulle.

Triple Infanticide.—The particulars are recounted by Dr. Teilleux, who was commissioned to inquire into the mental state of the guilty woman, the wife of Donnier Blanc, at Sassenage, in the department of the Isère. To carry out the inquiry Dr. Teilleux examined the accused on five several occasions, and also devoted a sixth day to visiting the scene where the crime was committed and to making inquiries among relatives and acquaintances on the spot.

The woman destroyed her three children by drowning. She was a small, pale, weak, deformed woman, aged thirty-two, but in appearance much older, having a double curvature of the spine, a small head much sunk between the shoulders, long thin arms and a very bulky abdomen, an enlarged heart, and grey scanty hair. Her countenance and manner were calm and collected, and her mind exhibited a fair amount of activity. She detailed the circumstances

of the murder without emotion, as though she had herself been unconcerned in them; she, however, gave vent to tears when her maternal love was appealed to. Menstruation had always been irregular and painful, and the murder was committed immediately prior to the recurrence of the menstrual discharge.

She attributed her distorted spine to a fall down stairs when a child between seven and eight years old, but the deformity was really due to a rachitic scrofulous constitution. However, it caused her much annoyance on account of the taunts and jests it exposed her to, and, as she remarked, everybody despised her.

She lost her mother during childhood, and was left to the charge of a beast of a father, who attempted to violate her when only seven years of age, as well as on after occasions, and indulged his vicious propensities openly in her presence with prostitutes brought into his house. The poor child learnt to hate her parent, and sought by marriage, when twenty-two, to escape from his power. But she could not, even as a wife and a mother, escape persecution from his lust, nor shield her children from his insults and grossness. She felt herself and them exposed to infamy and misfortune, and began to think it better they were dead. This distressed state of mind became aggravated by a charge made against her by her profligate father that she had stolen from him a bill for 1000 francs, and by a threat that he would have her imprisoned.

She drowned the youngest child first and relented, and attempted to save the eldest, the last pushed into the river; at the same time her own purpose to drown herself failed her when in the water, and she immediately repented of her rash act, and made confession of it to the priest, admitting that she was happy in having sent them to heaven. Her description of the particulars was given without emotion, and was interrupted and resumed without difficulty. The suggestion of punishment by the guillotine created not the smallest fear, and the only thing that called forth her emotions was reference to her father and his vile conduct. This subject constituted the fixed idea of her mind.

Her early history indicated much mobility of mind, periods of sadness exchanged for gaiety without appreciable cause. She became after puberty anæmic and hysterical. During her married life she had five children, and suffered much from hæmorrhage at her confinements, and from bleeding piles at other times. The lochia were suppressed three days after her last confinement (some four months before the murder), and the menses did not subsequently return for five months. Her mind was much disturbed for some two or three months before the fatal event; she was reported to have wandered in ideas and in speech, and latterly to have had little sleep, and this interrupted by frightful dreams. The insomnia continued after she was placed in confinement, and she recounted a

dream or hallucination of her father appearing to her and threatening her.

Dr. Teilleux discusses at length the mental state of the father of the unfortunate woman, and comes to the conclusion that he was not only a most vicious man, but also one of unsound mind—a specimen of degenerescence, to use M. Morel's term. The daughter was a like specimen. Her murderous act he assigns to an insane impulse, the result of overwrought feeling and of maternal tenderness impelled in a wrong direction. She killed her children, so to speak, automatically, and her self-consciousness was aroused by the appeal of her eldest child and by the contact of the cold of the water into which she plunged after her.

The case ended by the acquittal of the woman on the ground of her insanity, and she was ordered to be detained in the asylum.

The utility of secluding the insane at the commencement of their malady, Dr. Rousselin undertakes to demonstrate, by an appeal to published facts, the troubles and dangers of leaving insane people at large under the impression that they will do no harm. From the introductory remarks of his paper, it appears that an outcry has been raised in several French newspapers against the facility (as is averred) permitted by law to sequester persons accused of insanity, and against the constitution of asylums as places of seclusion and of treatment.

The writer, in fulfilling his purpose, adopts the course of extracting the leading particulars of eight instances of murder and suicide (as recorded in the 'Moniteur' and 'Siècle' during the latter nine months of 1864) committed by persons betraying some oddness of manner or of conversation, but not considered by their friends and neighbours insane enough to be confined in an asylum. He also analyses eighty-two other such published instances occurring during the same interval of time, and thus shows that on ninety occasions, within a period of nine months, public security was compromised by the existence at large of just so many lunatics. In fifty instances death resulted by murder or by suicide;—by the latter, in twenty-three of this number.

Dr. Rousselin was, moreover, enabled to get at the facts in the majority of the ninety cases recorded, so as to discover that in forty-eight the catastrophe occurred on the outbreak of an attack of insanity or within a very short period of it; and the argument deduced is, that the prompt seclusion of an insane individual is both a duty owing to society for its protection, and a benefit to the sufferer by affording him the best chance of recovery.

Pellagra in a medico-legal point of view is discussed by Dr. Léon Sorbets. He enters upon this discussion with an expression of dis-

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sent from the views of Drs. Rousset and Costellat respecting the cause of pellagra, as he is not prepared to regard the epiphyte (*verdet*) growing upon damaged and fermenting maize as the specific cause of the malady—an opinion maintained by them in the thesis on Pellagra to which the Academy awarded the Barbier prize.

Dr. Sorbets next briefly details a few cases coming under his own observation, in past years, of patients afflicted with pellagra who terminated their existence by suicide; and he rightly points out that suicidal propensity, chiefly during the accession of active delirium, is noted by writers on pellagra as a common occurrence. Indeed, those afflicted with this malady are subject to occasional seizures of violent delirium, and to a state of monomania or partial insanity, during the existence of which their actions must be held to be free from legal responsibility. This partial insanity assumes a melancholic form, with a vacant, stupid expression; it occurs in the advanced stages of pellagra, and disposes the sufferer to either suicidal or homicidal acts, and is further marked by hallucinations and illusions of sight or of hearing, or of both those senses at the same time. The mind presents, moreover, more or less dementia; the intellectual faculties are rendered obtuse or are obliterated; the moral consciousness and the normal perception and appreciation of persons and objects around are lost, and the most reprehensible acts are committed without motive or remorse.

If this be admitted, then, as Dr. Sorbets argues, the victim of advanced pellagra is absolved from responsibility for criminal acts committed under the morbid influence of the disease, which acts as an irresistible impelling force, inasmuch as his condition falls within the meaning of the 489th article of the Civil and of the 64th article of the Criminal Code of France; the former declaring that an adult who is in a habitual state of imbecility, of dementia, or of fury, may be interdicted, even if he have at times lucid intervals; and the latter providing that no crime or trespass can lie to the charge of the accused if he be at the time of the act in question in a state of dementia, nor if he be impelled to its commission by an irresistible impulse.

Estimate of the present Position of the Insane in France in relation to the Law of 1838. By Dr. A. Brierre de Boismont.—This long paper by M. de Boismont may be regarded as an extended *Apologia* for lunacy laws, lunatic asylums, and mad doctors. Our own country has been the scene of popular excitement at several periods respecting the condition and treatment of the insane; nor have such periods in several instances been ushered in without adequate causes, though in others they have been artificially brought about and sustained during a precarious and brief existence only by the spasmodic efforts of a few individuals in search of a grievance,

or of a sensational episode in the hum-drum of modern life among certain classes. A paroxysmal period of this sort has persisted in France for several years, its longer duration than its like among ourselves being attributable to the requirements of French journalism, which being restricted in its political developments, must find other matter for its purpose, duly seasoned to the national taste for sensational produce. And to what could the facile and vigorous writers in French newspapers turn for a supply of the requisite material for sensational composition with more prospect of success, than to the condition of the insane, the evils of seclusion, the abuses of asylums, and the misdoings of asylum doctors? since to all these subjects a sort of mystery clings in public estimation, and inasmuch as the grossest ignorance prevails respecting them amongst all classes. The happy *feuilletonist* who hit upon this prolific field for the employment of his pen, found already to hand various facts popularly received regarding insanity and the insane which would furnish him with a string of texts whereto to fasten the cobweb products of his active imagination. He found it recognised as an article of belief, that in France the number of the insane in asylums had doubled in the course of the ten years between 1851 and 1861, although asylums had been largely increased both in number and in size; he accepted it as a general fact, that the asylums were filled with chronic and incurable cases, that very few were ever discharged, and he discovered a most welcome weapon for casuistical attacks upon the doctrines of psychiatrists in the admitted difficulty of drawing a definite line between the sane and the insane state. With these assumed facts as a basis, he proceeded, with the aid of more or less inventive faculty, to construct various propositions; viz., medical incompetence to recognise and discriminate the forms of insanity; medical greed to profit by the detention of persons in asylums; the horrors of seclusion, and their effect in inducing insanity among those unjustly imprisoned in asylums, even within the three days permitted by law before their state could be affirmed by legally appointed guardians; nay, more, even within twenty-four hours; and the inadequacy of the law to protect from false imprisonment, and the consequent multitude of sane and harmless people shut out from all enjoyment and due occupation, and deprived of their liberty, &c.

These and other similar propositions, germinated within the closet of the newspaper writer, Dr. de Boismont undertakes to discuss and demolish. It would be to no purpose at this time in England, and particularly in a periodical like the 'Journal of Mental Science,' to recapitulate Dr. de Boismont's arguments in reply to the fallacies advanced by the writers for the French press; for in past years these last were thrust forward by some English sensational newspaper and novel writers, and were completely demolished by considerations,

facts, and figures analogous to those adduced by the able and distinguished French physician just named.

We cannot, however, dismiss the further examination of this "apology" without expressing a high opinion of the manner in which it is written, and of its completeness as a reply to the objections and insinuations so recklessly brought forward.

The Passions—the influence of the moral upon the physical nature of Man, is the subject of a psychological article by M. Tissot. It constitutes one of a series of psychological essays this well-known writer has produced from time to time. He is a supporter of the doctrine of "animism," a believer in the separate existence of vital forces, and at the same time he makes use of the old hypotheses of fluxions—of vaporous, convulsive and febrile disturbances of an assumed normal equilibrium, among the vital forces. For instance, in the first section of his essay he speaks of the influence of the passions in producing fluxionary movements which displace the blood and humours from one part to another, and so constitute the active cause of hæmorrhages. To illustrate these bygone hypotheses, he has recourse to the works of physiologists and of physicians of the last century for examples of diseases following upon emotional excitement, and which, in the absence of a more accurate and minute physiology, were then explained by such theories as those he now resuscitates.

However, the general truth M. Tissot has essayed to establish, viz., the influence of the emotions and passions upon the body both in health and in disease, will not suffer by the antiquated illustrations he borrows for his purpose; indeed, some of the examples are good enough as such, but they would answer their purpose better if divested of the shadowy hypotheses with which he clothes them. In short, M. Tissot should make himself acquainted with modern physiology if he desires his psychological disquisitions to be read and appreciated by the present generation.

Medico-legal Report on a Parricide.—This is the joint production of MM. Voisin, Parchappe, and Rousselin, and relates the circumstances of an attempt at parricide, and the opinion arrived at regarding the mental state of Nicolas Kieffer, the would-be murderer. The victim, the father of the accused, lived uncomfortably with a drunken wife, whilst his son, an only child, always had a bad character, imitated his mother in her dissipation, and took her part in the domestic quarrels. In 1860 he was condemned to two years' imprisonment for desertion from the army, and again six days' incarceration, in 1861, for fraud. He was seized with mental disorder in 1862, and sent into the Bicêtre. He was allowed at times to leave the hospital, when he seized the opportunity of indulging in drink.

His animosity towards his father increased, and he several times threatened him with violence.

On the 6th of June, 1864, he was allowed to leave the hospital with his mother.* On their way through the streets they entered an ironmonger's shop, where he bought a hatchet, and remarked, "This will do well," accompanying the words by two flourishes of the weapon in the air. In the evening the mother got some brandy, and sat with her son drinking it, when the father (who as rule got his supper away from home, in order to avoid scenes with his wife) returned and lay down to sleep. Just afterwards the son rose hastily, and going to the bedside, upbraided his father for refusing money to the mother, and then seized the hatchet, repeatedly striking him with it. The old man rushed from the couch, and made his way to the common stair of the house, where his cries brought out another lodger, whom the son threatened to murder if she advanced.

Fortunately, the wounds were not mortal, although evidently inflicted with great force and with an evident intention to kill. The accused, indeed, confessed at once his regret that his murderous attempt had failed, and admitted that he had for a long time made up his mind from hatred to kill his father, had bought the hatchet to effect his purpose, and had drunk brandy to give him the necessary courage. A rope was found upon him, which he stated he purposed to hang himself with after having murdered his father. The mother was presumed to have been implicated in the diabolical attempt.

When arraigned on his trial, the culprit made no attempt to extenuate his crime, treated his condemnation as inevitable, and was opposed to having the plea of insanity advanced to rescue him.

His parents were miserably poor, and took little heed of him during his childhood; he, however, learned to read and write. The father was often drunk, though less frequently so than the mother. During his two years' imprisonment (in 1860) he was seized one night, according to his own account, during sleep with an attack that deprived him of the use of the left side of the body; and from that date he became sad, suspicious, and violent. He was treated for this attack in the military hospital for six months, and was then discharged without a pension. He returned to his miserable home with his parents, and after his six days' imprisonment (in 1861) for swindling and his return home, he conceived, according to his own statement, the idea of murdering his father.

On the 14th of May, 1862, tormented with this wretched idea, and otherwise in misery, he threw himself from the sixth floor of a house, but marvellously escaped with his life. He was sent to the Hôtel Dieu, and was at length transferred to the Bicêtre as infirm and mentally deranged, but was not placed among the lunatics. In

1863, and again in 1864, whilst in this hospice, he attempted suicide with a knife; on the former occasion whilst in a state of intoxication.

At the time of the trial he was twenty-seven years old, rather above the middle height, of a lymphatic nervous temperament, and a melancholic, indifferent manner. He was paralysed on the left side, and walked with great difficulty. His intellect appeared feeble, and the range of ideas very limited, and apparently tinged with melancholy. Whilst in prison, on October 25th, 1864, he wrote to his mother, and in this short note stated that he regretted his conduct towards his father, and he hoped he would forgive him.

From the date of his arrest for the murder, in June, until the 12th or 14th of October, his manner was quiet and melancholic, and he occupied all his time in reading; but after that period his conduct changed—he displayed much excitement, and to guard against suicidal attempts he was placed in the infirmary.

The reporters sum up the history, referring to the hemiplegic attack, four years prior to the murder, its effect in disabling him from getting a livelihood, and also in enfeebling the intellectual and moral powers, as exemplified by the periodic attempts at suicide, the irascible temper, and the melancholic disposition. Associated with these particulars were those of his dependence upon his miserable, pauperised parents; the family embroilments and vices; his wounded feelings for his mother, who was constantly upbraided by the father; his own frequent intemperance; and, lastly, his general state of irritation and discontent after his transfer to the Bicêtre, as testified to by several attendants of that hospice.

The conclusions arrived at were—1. That N. Kieffer, anteriorly to June 6th, 1864, was suffering from semi-imbecility, consecutive to cerebral hæmorrhage and consequent hemiplegia of the left side, and that this condition was complicated with periodic suicidal melancholy. 2. That at the date of June 6th, 1864, Kieffer being in the mental and physical state as set forth, was moreover, according to his habit, under the influence of violent alcoholic excitement; and it does not appear possible, in our opinion, to affix responsibility to his actions at that time.

Medico-legal Report on a case of Infanticide. By Dr. N. Laffitte. —Marie G—, aged 36, was confined in the house of a midwife named Sauvages, on the 28th of May, of a well-formed living male child. On the evening of the following day Sauvages had to leave her house, and did not return until midnight, when, to her amazement, she was told by the mother that the child was dead; “that at ten o’clock it was living and cried loudly, and was dead at eleven.” The woman’s suspicions were raised, and she communicated with Dr. Hermantier, who confirmed them, discovering evident traces of

strangulation in the form of a circular impression around the neck, with some excoriations of the skin.

On the succeeding day M. Hermantier charged the mother with the murder, who at once confessed to it, and on a subsequent occasion gave up the cord by which she had effected it. When taken before the magistrate, she reiterated her confession, and added that, hearing her infant incessantly cry, she sat up in bed and strangled it with her garter, without taking any heed to the presence of another woman, near her confinement, who slept in an adjoining bed almost in contact with her own.

She was committed to prison, but immediately removed to the hospice at Mende. When subsequently put upon trial, at the assizes in Lozères, in September, 1863, circumstances were detailed in evidence which went to show that M. G— was habitually imbecile, and had an hereditary tendency to insanity. Moreover, the physician of the hospice, who had her daily under observation, testified to the existence of nervous disorders; and, taking into account her actual mental condition, he declared it to be his opinion that she had not the free exercise of her faculties at the date of the crime. In consequence of this evidence, the further progress of the trial was postponed to the next session, and Drs. Monteil, Donnadieu, and Laffitte were instructed, in the mean time, to examine the criminal, and to report concerning her mental state.

Their report showed that she was thirty-seven years of age, of a fair constitution, and a lymphatic sanguine temperament. Head well formed; lower half of the face disproportionately large; pupils very large, and inactive; pulse from 60 to 65; loss of power over the lower limbs complete—the muscular contractions of the upper were feeble, and for a time also entirely paralysed; complete anæsthesia of the cutaneous surface generally—pinching and pricking calling forth no evidence of sensibility. The special senses were likewise found, from the time of her entrance into the hospice, greatly impaired; vision was nearly lost, and the speech much embarrassed; the paralysis at first affected the upper and afterwards the lower extremities; the physiognomy was heavy and stupid; the features fixed; the mind unimpassionable, and her emotions unaroused by the details of the murder when repeated in her hearing. Her disposition appeared mild, and no vicious instincts were evidenced. Most of her replies to questions were made slowly, in monosyllables; and she frequently prefaced them by saying, “I am told” this or that. Her knowledge of her age was dubious; she had been to school until twelve years old, and subsequently in “pension” for education, but had not learned to read or write, and could not add together more than the simplest figures. Her memory appeared quite at fault with regard both to events some time since passed and to recent ones. She repeated that she killed her infant because she was wearied with its

crying, and, in answer to inquiry, asserted she did not recognise she had committed a crime.

She had been occupied in looking after cattle, and thereby passed her time in much solitude, and had indulged in self-abuse, as she readily confessed. Her sister had visited her just before her confinement, and was struck by her indifference and absence of thought relative to the impending event.

The reporters restate facts, and collect as inferences, that this woman, possessing an hereditary tendency to insanity, and of deficient mental capacity from childhood, had a lingering, painful labour, which operated as a disturbing force upon her weak mind, and that this derangement manifested itself not only in the act, unreflected upon, and as to its criminality unappreciated, but also in the symptoms of physical disorder exhibited by the severe pains in the head, excessive dilatation of the pupils, sleeplessness and anorexia, followed by impaired vision and speech, and by paralysis of motion and sensation, at first in the upper and then in the lower limbs. Simultaneously the mind grew weaker, and succumbed to a sort of intellectual depression and apathy.

The reporters did not regard her as a victim of irrepressible impulse; nor did they believe the crime to have followed upon a sense of shame, or to have been committed with any view to moral or material advantage, or from passion, or with premeditation. The conclusion they arrived at was, that from the day of her confinement the whole cerebro-spinal system suffered, and she lost the free exercise of her faculties, and became consequently irresponsible for her actions. Moreover, that although under treatment considerable physical improvement had been attained, and the intellectual depression had declined, her mental condition remained so weak, that, under certain contingencies, she might again be guilty of criminal conduct: that it was therefore advisable to seclude her as dangerous, if at large, to society.

This decided opinion of the reporters did not prevail at the trial in the first instance, and the case was referred a second time to a jury, when it was finally adjudged, after two days' argument, that the prisoner did not voluntarily kill her infant. She was thereupon acquitted, and ordered to be set at large.

Medico-legal Report on a case of "Reasoning Madness." By Dr. Henry Bonnet.—The subject of this report was a man, named Lejeune, confined in the Maréville Asylum. He was sent to the asylum July 14th, 1852, when thirty-seven years of age, on the authority of the police commissioners of Nancy, and of the préfet "de la Meurthe." M. Morel, the then chief physician of the asylum, certified him as suffering from periodic mania, and subsequently defined the case as a type of instinctive mania engendered by

demoralising passions. The particular state was said to be marked by a passion for drink, so developed as in itself to constitute a malady, and to produce maniacal excitement, showing itself in incoherence of words and in irregularity of the actions. Lejeune had brought punishment in prison on himself, whilst in the army, by misconduct; he had insulted the magistrates, and asserted that he was persecuted by the police. In August, 1852, Dr. Morel reported him as having had an attack of insanity some years previously, and, since he had been under his notice, of having been seized with general delirium, disturbance, and agitation. This attack lasted several days, after which the patient became calm and tranquil, though the elements of mania were still latent in him, as in others having a like irresistible propensity to drink. His eye was glaring and haggard, speech jerking and slightly embarrassed. He could not realise his position, nor comprehend why he had been sent to an asylum; for though, as he urged, his conduct might have earned him a place in a prison, yet to confine him in an asylum inflicted dishonour upon him, and was an act dictated by the malevolence of the police, because he had betrayed their secrets, &c. The idea of persecution had gained hold of his mind, and suggested an explanation of what had befallen him. Not only were his intellectual powers injured, but also therewith his moral sentiment. Drunkenness was in his case not simply a vice, but an inveterate and irresistible habit, into which he, so to speak, instinctively fell. Not only was his reason temporarily affected, but there was a lesion of the nervous system which brought about a special delirious tendency that could only be guarded against by isolation and a radical change of habits. In August, 1852, Lejeune made a representation of his case to the local judicial authorities, and on the 11th of September regained his liberty. Fifteen days after, he fell into the hands of the police for drunkenness, and suffered a brief imprisonment; this punishment, however, effected no salutary change upon him, for he plunged into all sorts of debauchery, and soon again got committed to prison. When at large, the advice and reproaches of his friends only resulted in aggravating his vicious proclivities, and were attributed by him to persecution. He declared himself a misunderstood individual; his great qualities ignored by the Government, and his superiority unrecognised by a blinded society. He was proud, restless and irritable, followed up no project he took in hand, and could not apply himself to any sort of work. He gave vent to hosts of theories for the political and social renovation of society, assumed his superiority in talents above all others, and esteemed himself the only individual capable of giving advice in the affairs of his country. At the same time, he was constantly found in the low drinking-houses of Metz, in tattered and dirty clothes, and surrounded by people of the lowest class. To arouse discontent, and to make quarrels, afforded him gratification.

His frequently outrageous and improper conduct, his calumnies upon others, scandalous inventions, and various improprieties, brought him repeatedly under magisterial censure and punishment, but all correctional measures were lost upon him.

He did not restrict his mischievous and insolent conduct to the lower class, but extended it to those in authority and to his own friends, and at length so wearied out the préfet of the department, and every magistrate and other officer, that the préfet sent him back to the asylum in September, 1859, as a lunatic who compromised public order and security by his conduct. Two physicians gave certificates of insanity, and Dr. Auzouy, chief physician of Maréville at that date, made the requisite report of the case within twenty-four hours of admission, noting his previous confinement in the asylum seven years previously, his dissipation, his wasting his patrimony; his perversion of his intellectual endowments, and of some knowledge of the law that he had obtained, to devising schemes to gratify his hatred to certain persons; his slavery to his passions, which he would gratify at any cost; his mania for intoxicating liquors, &c. On admission, his speech was brief and jerking, he gesticulated wildly and was very restless, and presented all the symptoms of mania. In the following month (October), Dr. Auzouy recorded an unfavorable prognosis of the case, and the opinion that Lejeune was a very dangerous person.

He continued in the asylum, regarded as suffering with remittent mania, marked by the predominance of ideas of "chicane" (roguery). He constituted himself a sort of advocate and secretary to the other lunatics, stirred up discontent and insubordination among all around, and seconded attempts at escape. He was loquacious, puffed up with self-importance, fawning sometimes, and hypocritical; his reasoning devoid of judgment and discretion, and his writings demonstrative as well of his vanity as of his ideas of persecution. He also had remittent hallucinations of hearing.

"In fine," writes Dr. Bonnet, "I consider Lejeune to be suffering with '*folie raisonnée*,' with instinctive depravity. He belongs to that class of lunatics who, although at times possessing consciousness of their actions, cannot resist the primordial impulse, and are not content until they have attained their bad purpose." In M. Trélat's language, these lunatics are less readily recognised than others; they do not murder, it is true, but they kill in detail all those with whom they live. The "reasoning" lunatic has but one object, viz., to be free in order to indulge at his ease in the extravagance of his words and of his acts. The contrary to this marks the victim of curable insanity. He likewise loves liberty—he longs for it and demands it; but he does so with calmness, and submits to the will of the superintendent under whose charge he is placed. The truth of this parallel is proved by daily observation.

Unsociability, perversion of character and habits, the impossibility on their part of comprehending their own interests, and malevolence in all circumstances, are the distinguishing traits of these lunatics.

Medico-legal Report of a Husband accused of the Murder of his Wife. By Drs. Daviers and Billod.—The murderer's name was Charles, and the victim was his own wife. The crime was committed May 13th, 1863. The criminal at first asserted that his wife had died suddenly from disease, but at the same time exhibited much gratification at the event. This assertion was at once seen to be false: the woman had evidently been strangled, and the husband then essayed a lame tale of the partially accidental character of the occurrence during a quarrel; but, finding this contradicted, he admitted that he had first beaten and stunned, and then strangled her. He further pretended that it was done during momentary passion, and was not at all premeditated; but, on inquiry, it was clearly established that he had for a long time made up his mind to commit the crime, and to seize the first opportunity of getting rid of his wife. It was further brought out in evidence that he had often beaten her; had threatened violence, had talked of the means he would resort to to kill her, and fifteen days before the commission of the crime he had said to a midwife, "Come and see her: if she is pregnant, it is lucky for her; if not, it will be all over with her."

At this time Charles was forty-six years old, was by trade a joiner, and came of a respectable family, at one time well off. He had three brothers and one sister; but no member of his family had been insane, although all of them were highly emotional and excitable, particularly when under the influence of wine.

The prisoner had the reputation of being naturally an excitable man, and was so especially after drinking intoxicating liquors. Unhappily, he became addicted to strong drinks, and became correspondently irritable, with so great a tendency to violence that he became a terror to his neighbours. He found pleasure in torturing animals, and would strike children without pretext. He suffered from painful dyspepsia, which probably resulted from his habits. He was proud, and a great boaster; but though he presented some signs of mental disturbance, most of his symptoms were referable to drunkenness. When brought into the presence of the body of his wife, he exhibited no emotion, although he hesitated to approach it.

The reporters state him to have been of the nervous temperament, weak in appearance, and pallid; his physiognomy melancholic, and the mobility of his features singularly great. They observed at once slight spasmodic contractions of the muscles of the face, and some embarrassment of speech, such as might be attributed either to paralysis or to the tremor from drink. His gait was steady, though

something of a convulsive character attended its activity. The grip of the hands was strong and firm. No dilatation of pupils. No disorder marked the dress or the cell of the prisoner, who, whenever observed, maintained the same attitude—the face turned towards one side of the cell, the head hung down, and the whole gesture sad and pensive. The attendants witnessed to alternate states of depression and excitement, the latter accompanied by a tendency to violence and to suicide. He was sleepless, talking to himself the greater part of the night, ate little, and dressed and undressed himself.

When questioned relative to his name, age, place of birth, and occupation, no feebleness of mind was apparent in his replies. However, further interrogatories respecting his son, his son's age, present residence, occupation, means of living, &c., displayed a great extent of mental disorder, in which notions of grandeur, of ability to acquire wealth and to effect various extraordinary objects, were particularly prominent. The questions and answers put upon record by the reporters make this statement very clear.

The next questions to determine were, whether this evident state of delirium existed prior to the murder, and if the mind of the accused was under its evidence at the date of it; whether the delirium was simulated; whether, if being real, it was the result of drunkenness or of mental alienation at the period of the crime; and if of the latter, what form did it assume? and, lastly, whether the disturbance of the intellectual faculties was of such a nature as to deprive him of freedom of will, and to involve irresponsibility?

The existence of delirium prior to the murder was evidenced by the habitual state of mental excitement, with predominance of ambitious ideas, of vanity, of notions of persecution—by the decided tendency to violence, and also to hallucinations of hearing. His conduct in the leading particulars of the murder was in harmony with the character of the delirium. No ground whatever existed for the supposition that the delirium was simulated, nor could it be attributed to intoxication. An examination of the physical and mental features of the insanity of the accused resulted in the conclusion that it was general paralysis that he suffered from, and that, in response to the last query, it was concluded that he was deprived of freedom of will, and was, consequently, irresponsible for his actions.

Drs. Daviers and Billod preface their report by some general remarks, from which it appears that at the period of their first examination of the accused the existence of insanity was not pronounced. Some intellectual disturbance, and even some delirium, were discoverable; but their manifestations were vague and uncertain, and it was felt that an attentive and prolonged observation of the case was required. The difficulty of diagnosis was further en-

hanced by the knowledge of the habits of the prisoner. However, for a month previously to the drawing up of the final report, any possible doubt as to the mental condition was entirely dissipated; and the history, again, of the year since elapsed has confirmed the justice of the conclusions arrived at.

A remarkable piece of evidence is entered upon record, derived from a letter written by the criminal's son, a boy in his twelfth year. The reporters characterise this as a strange document—a marvellous example of *sang froid* and of insensibility written by a child—an anomaly of nature, and an instance of the predisposition to insanity among the offspring of the insane. This letter gives, in great detail, all that happened after the murder; the conversations that took place between the father and his child, the conduct of the father, and the history of the previous relations subsisting between the father and mother in past times.

On the Effects of Insolation upon the Insane (Pellagra).—Dr. Daniel Brunet undertakes in this paper to give the results of four years' observation on the effects of insolation upon the insane in the Asylum of Niort, and to examine the several hypotheses put forward relative to the causation of pellagra.

The Niort Asylum is a new erection, constructed after the designs of M. Philippon, made under the direction of M. Parchappe. It serves for the reception of the insane from the department of the Deux-Sèvres. It was not completed until 1855; it was built for 250, but now contains 380 lunatics, and is, therefore, overcrowded. This excess in population is allowed, as at present the department is embarrassed by the original cost of the building and has not the means to enlarge it.

Dr. Brunet gives a brief description of the building, from which we learn that though a new structure costing £20,000, it is very defective in its water-closet arrangements. The closets are built against the walls of the wards, and directly connected with cess-pools which have no outlet: consequently, they are reported as "almost constantly exhaling mephitic gas very detrimental to health."

Another defect attaches to the dietary. The daily rate of payment charged to the townships for the maintenance, care, and treatment of each lunatic is fixed at the low sum of one shilling. It is found inadequate; but the departmental authorities, to avoid adding too much to their existing debts, have sought to keep their expenditure as low as possible, and have unhappily provided very scant fare for the unfortunate inmates of the asylum. Dr. Brunet says the regimen is not so strengthening as it should be, considering the state of overcrowding. The allowance of bread is too small, and meat is served only five days per week. Maize forms no part of the dietary.

The mortality has varied between 20 and 25 per cent. in relation to the numbers under treatment.

The effects of insolation (exposure to the sun) are described as either acute or chronic. Acute inflammation of the skin is the first result, indicated by redness and pain with tension, and, when severer, by phlyctenulæ containing serum—in worse cases sanguinolent, and, finally, purulent. When sero-purulent effusion occurs, the superficial part of the dermis appears to be mortified. This solar dermatitis is commonly very topical, and unless severe the general health is unaffected; but if more violent, there is fever and wakefulness. It, however, does not seem to react upon the nervous system, though it may set up gastro-intestinal irritation with diarrhoea. It terminates by desquamation of the cuticle, varying in extent and by resolution, or it may persist in a chronic form.

The chronic state is characterised by reddish-brown discoloration of the skin, a loss of elasticity, and fissuring and peeling of the epidermis. The desquamation in slight cases is simply furfuraceous and painless; but, in severe, plates of skin are dislodged after acquiring the form of blackish crusts. Similar desquamation, but accompanied by deformity of the nails, is a consequence of herpes circinatus. The affection of the nails is not a symptom of dermatitis from insolation.

Withdrawal from the heat of the sun soon effects a cure, some discoloration of the skin, however, remaining. The lesion is especially noticed during the heat of spring.

Such are the leading particulars put forward by Dr. Brunet respecting the effects of exposure to the direct rays of the sun. The examination of opinions advanced relative to pellagra is his next subject. M. Gintrac represents pellagra to be characterised by three sets of morbid phenomena:—1, a special inflammation of the digestive canal throughout; 2, an erythema of the skin, accompanied by desquamation and fissuring; and, 3, a grave lesion of the nervous system marked by vertigo, tremor, an unsteady gait, a painful sensation along the spine, and a remarkable disturbance of the intellectual faculties.

It is now largely believed that pellagra is a general malady or diathesis. It is not a consequence of eating fermenting maize, for it is met with in countries where maize is not consumed, though it is always associated with a state of debility and with exposure to the sun. It is not a morbid entity, and the triple array of morbid phenomena is by no means of constant occurrence or of needful concurrence. The course of each group is independent, and the cure of one has no influence upon the others. The cutaneous symptoms may exist apart, or be only attended by slight gastric irritation. The nervous phenomena are produced by the direct action of the sun upon the cerebro-spinal axis. Individuals debilitated by poverty,

and by bad food, such as decomposing maize, are especially prone to suffer from insolation; but there is no predisposing cachexy connected with mental disorder. To make pellagra disappear, it suffices to protect people from too prolonged exposure to the sun, and to keep them well nourished.

Dr. Brunet is clearly no Parsee. Pellagra is a proof of the disease-working effects of the sun, and the mischievous luminary must, therefore, be avoided, especially by the victims of lunar influences whose cerebro-spinal system is not in first-rate order. Umbrellas and parasols must take a foremost place among the curative and preventive appliances of lunatic asylums; and work for the insane in the open fields, excepting during cloud and rain, must be set aside. Unluckily for the solar theory of pellagra, however, the denizens of India and of the tropics, where great Sol in full glory shines, are strangers to the malady, although besides the scorching rays so many among them support also the ills of bad nourishment and of maize-diet. Our opinion is, that Dr. Brunet has seized hold of only one small thread in the woof of causation of pellagra.

Medico-legal Report on Madame R—. By Drs. Parchappe, Girard de Cailleux, and Rousselin. This report is on the case of a lady confined as a lunatic in the Charenton Asylum, but concerning whose mental condition much dispute had for a long time existed among the members of her family. Her friends had formed themselves into two opposite parties, each obstinately bent on proving its own opinion of her case the correct one, and on attributing improper conduct to the other. The subject of the dispute had been for ten years in seclusion before the able physicians who prepared this report were appointed to examine into her mental state; not but that several *ex-parte* inquiries had been previously made, and several returns presented respecting the matter by Calmeil and others. We must content ourselves with noticing the *résumé* of the present report.

Madame R— had on five several occasions been placed afresh in different asylums, and each time under new certificates of her insanity. Three trials had been afforded to her, but a due regard to her own safety and to public security had necessitated her return to an asylum. A fourth attempt to restore her to liberty and to her home was also made; but at the time her son arrived at Charenton to take her, she was in a state of maniacal excitement, and the proposal had to be given up. During the ten years of seclusion, she was examined by six physicians at different times, but with one result—that, viz., of her being insane, and almost all concurred in regarding her as a dangerous lunatic.

It might be possible that during a remission, and for the period of an ordinary visit, a favorable opinion might be formed of her mental

condition; but the reporters assert that she is usually in a state of delirium, and that her mental malady, which assumes several forms, varies in character with great regularity, and without any rational interval, under the four following conditions :—1, mania with excitement; 2, congestive stupor; 3, melancholy, marked sometimes by suicidal propensities, and always by refusal to be dressed, to eat, &c.; 4, remission, with dementia, during which the memory shows signs of great weakness, and also with incoherence in the subjects of conversation.

Ordinarily, and in each phase of her malady, Madame R— suffers with hallucinations of hearing, and at times of sight and of smell. Further, during the maniacal paroxysms there is excitement of the organs of generation.

The reporters conclude that the patient had been rightly placed under control in an asylum, and that seclusion was still needed. At the same time, they considered that she might be removed from Charenton to the house of her relatives under sufficient guarantees for her supervision and management. Lastly, they rejected a scheme for placing her apart in a house with an attendant.

This report was placed before the court, and an order made for her unconditional discharge, the folly of which soon showed itself. The patient's mother claimed her discharge, and took her to her home; but within a week her friends had again to apply for her reception into an asylum, as she relapsed at once into a state of excitement, refused food, and became altogether unmanageable.

Medico-legal Report on the Mental State of Sieur Lagarde, accused of Forgery. By Dr. Legrand du Saulle.—The prisoner had associated himself in Paris with an adventurer named Grandin; who had previously to his arrival in that city been convicted of crime. The two had set up a sort of agency for the distribution of catalogues, engravings and papers, and professed to be acting under the authority of the prefecture of police. Various ambiguous plans were resorted to for some time to further their agency, and at length Grandin applied to an engraver to engrave a seal with the words, "Préfecture de Police—Division des Passeports." The engraver reported this application, and Grandin was taken into custody, when he asserted he was acting solely under the orders of Lagarde, who was thereupon apprehended. A search made in their rooms revealed various proofs of trickery and forgery. Lagarde denied the accusation of having instigated Grandin to the criminal offence, and the latter was known already to have been engaged in and punished for similar frauds.

Lagarde was thirty-seven years of age, the son of a retired captain, deceased. His mother was likewise dead. She was reported as having been mentally deranged: and Lagarde himself, whilst still

living in his native town, Vezilly, was looked upon as of unsound mind. He volunteered into a regiment of hussars, and served fourteen years in the army. The letters he wrote home to members of his family during this period convinced them of his mental derangement, a fact also borne witness to by his fellow-officers. He was of middle height, and his physiognomy was neither deficient in intelligence nor in character. He was well dressed, appeared to have much self-esteem, was loquacious, and recounted with emphasis and magniloquence his services in the army. According to his own statement, he had "typhoid and brain fever" nine or ten years previously, and lay some days in an unconscious state. It seems probable that he did actually suffer at this time from cerebral congestion and temporary hemiplegia of the right side.; indeed, this half of his body is now weaker than the left. Whilst talking, although merely repeating his stories, every now and then a syllable of a word or a word in a sentence was stumbled over, the first or last portion of a word was repeated two or three times, and now and then a phrase left unfinished. Still, he went on with the next word or sentence, talking away with great volubility, but without any change of tone, &c. He was peculiarly calm, indifferent, and on good terms with himself and others; a state of things characteristic of the insane as contrasted with criminals. Allusion to the crime with which he stood charged excited no emotion or irritation. He reposed, well contented, on the rectitude of the judge; prison was not wearying to him, as he kept himself constantly busy with writing, and no reflection on his culpability and its consequences harassed his mind. His memory was clearly defective, and his notions of his own powers and importance very exalted. He pretended, for instance, that such was his knowledge of geography and of military administration, that he could direct the movements of an army through France with his eyes shut; although in fact he could not tell the distance of Paris from any of the principal towns of his native country.

A number of his letters and papers were put into Dr. du Saulle's hands, and added materially to the conviction of Lagarde's insanity. They were evidently written with great rapidity; words were omitted, the ideas associated; numerous parentheses, marginal references interspersed; lines and words written here and there in stronger and larger letters; the formulæ of honour and respect greatly exaggerated, and especially so at the conclusion of some of his letters.

In forming an opinion of his case, the first thing to be borne in mind is his hereditary tendency to mental disorder. From his youth his intellect was regarded as feeble; and although he managed to perform his duties in the army for fourteen years, he was looked upon as mentally deficient; and in the certificate of good conduct handed to him when he left his regiment, he was stated to suffer from chronic rheumatic pains of the right shoulder, and from feeble-

ness of the lower limbs. Again, the effects of cerebral congestion in weakening the mind, in modifying the character, and in enfeebling the will, must be taken into account; and in the case of Lagarde the will had suffered more than the intellect, so that, whether from fear, or from his having lost all power to act for himself, as well as all energy and decision, he had fallen into a condition that subjected him to be led into any sort of crime or folly without a clear perception of its consequences or of his own responsibility.

Moreover, Lagarde was subject at times to noises in the ears, and, particularly in the state of half-sleep on getting to bed, to a sort of phantasmagoric visions of light and dark bodies, of clouds, of images of animals and various objects passing before him in rapid succession until perfect sleep arrested them. Lastly, it remains to be mentioned that Lagarde was extremely sober, and suffered from headache after taking only one glass of wine.

Dr. du Saulle's conclusions were, that Lagarde, though preserving the appearance of intellectual activity, has always been of weak mind; 2, that he is lapsing into a state of dementia, and already exhibits evident signs of paralysis; and, 3, that he cannot be considered responsible for his actions.

In conformity with these conclusions, a verdict of not guilty was taken, and the prisoner was transferred to an asylum.

The long orations by the chief psychological physicians of France, members of the "Société Médico-Psychologique," delivered at the various meetings of that society held throughout the year 1865, on the subject of the provision to be made for lunatics, would be well worthy perusal, and we should have been glad to have made an analysis of them, could it have been effected without neglecting our duty in reference to the original articles contained in the 'Annales Médico-Psychologiques.' Let us hope, however, that the Society will call upon some one or more of its officers to prepare a digest of them, capable of being transferred to our pages for the edification of those who have neither time nor opportunity to wade through some scores of printed pages in search of definite opinions and conclusions.

J. T. A.

II. *English Psychological Literature.*

By S. W. D. WILLIAMS, M.D., L.R.C.P.L., Assistant Medical Officer of the Sussex Lunatic Asylum, Hayward's Heath.

It is proposed to devote the present psychological retrospect to a short, and it is feared necessarily imperfect, *résumé* of the "English County Lunatic Asylum Reports" for the year 1865. We must defer to a future occasion our notice of the Irish and Scotch reports. Many of these reports unavoidably re-echo one another, and it is evidently sufficiently difficult even for the able men who govern our county asylums to find from year to year enough of interesting matter to fill up the allotted quota of pages. This difficulty is in a great measure due to the fact that they have to write for two different classes of readers—on the one hand, the visiting justices and the general public; on the other, the medical profession in general and the specialty in particular. Hence, we might easily class each report under one of these headings—First, we have reports written entirely for the visiting justices, in which the writer confines himself to general subjects, and as far as possible ignores medical matters; secondly, reports almost purely medical; and thirdly, and these decidedly predominate, a mixture of both.

That such is the case, cannot but be viewed as a subject of regret, because, considering what vast storehouses for psychological teaching our asylums must be, one cannot but think that a more studied attention to, and report on, the modes of treatment and their results pursued in the various county hospitals for the insane would unquestionably advance our knowledge of insanity and increase our powers of battling with its progress. Undoubtedly, a step in the right direction has been taken in the successful attempt of the committee of our society appointed to recommend and promote a uniform system of statistics, and the thanks of all true psychologists are due to these gentlemen for the successful prosecution of their labours. Much remains to be done, however, in this matter. Several superintendents, it is true, have already adopted the proposed tables, including the superintendents of the Wilts, the Hants, the Warwick, the Somerset, the Abergavenny, the Oxford, the Norfolk, the Lincoln, the Cumberland and Westmoreland, the Sussex, and the city and county of Bristol, &c., &c., but many still hang back; it is, however, to be hoped in the interest of science and the common weal, that next year we shall see them adopted in many more, if not all, of the reports.

There is, however, very much of interesting matter to be culled from these reports, for, as Dr. Bucknill has remarked, it is impossible for a number of men so full of knowledge to write without

conveying important and original information, and in the following pages an attempt will be made to collect and to some extent arrange the most useful and original information from each report.

We would first, however, recall to the recollection of the readers of this Journal a sentence written in the number for July, 1862, by Dr. Lockhart Robertson, in which, speaking of asylum reports, he says, "Thus we find the superintendents of new asylums complaining to ears, which by old experience we know to be 'deaf as adders;' that patients are sent to them in a hopeless state of bodily disease when asylum care can afford no help, and when their admission can only tend to swell the bills of asylum mortality; and with equal frequency the complaint is made that few of the cases sent to the asylums for treatment are sufficiently recent to be curable." This was written now some four years ago, and in nearly every asylum report we find the same complaint made with the unvarying repetition of a cuckoo cry. This is to a very great extent due to the cheese-paring policy of boards of guardians, and would be worthy of the considerations of Mr. Gathorne Hardy in any future reform he may contemplate in the poor laws.

Bedford, Hertford, and Huntingdon Counties' Lunatic Asylum.—

A leading feature in this asylum is a tramway connecting it with the railway station at Arlesey. This is a great convenience, and having become out of repair has been relaid at a cost of £528. "The sum is large, but it is much more than compensated by the heavy cost of carting goods, &c., along the road from the railway to the asylum." The sewerage is utilised over the meadow land connected with the asylum, and appears to have been very successful. Thus, in a report to the committee, Mr. Heathcote writes—

"I have been over the sixteen acre field that has been subject to the sewerage of the asylum, and it may be satisfactory to have the report as at present made by Mr. Steckley :—"Ten acres have not received any of the fluid, and their produce of hay has been under half a ton per acre. The remainder has principally kept eleven cows, and if it had been permitted to run to a crop of hay would have produced two tons per acre. Three acres have already been cut twice and will be fit to cut once more in October. Three acres have been cut once and will give one more crop in October.

"There is reason to suppose that all the six acres will in future become more saturated with the sewerage, and will afford four crops in the course of the year."

This was on the 24th of July. On the 18th of December he writes—

"I have walked over the field watered by the sewerage of the asylum, and find the appearance of the herbage satisfactory. Mr. Steckley informs me that since my last minute was made, three acres have been cut twice, producing ten tons per acre at each cutting. Six acres have been cut again.

once, producing seven tons from each acre. During six weeks fifty-nine sheep have depastured on the sixteen acres."

It would be interesting to have some more detailed particulars respecting this experiment, such as the nature of the land, the strength of the sewerage, the number of gallons of water used per patient, the quality of the hay, &c., because the success of this experiment is somewhat different to that experienced elsewhere. Both at Northampton and Hayward's Heath the irrigation of ordinary pasturage has had to be conducted with very great caution, for it was found that the sewerage unless applied very diluted and for short periods, enabled, it is true, all the coarser grasses to spring up almost to any height, but quite killed the finer and more valuable herbage.

Bristol City and County Lunatic Asylum.—Dr. Stephens calls the attention of his committee to the overcrowded condition of the asylum which was built for 200 patients, and on the 31st December, 1865, contained 209. Out of this number he can only recommend eight males and ten females as at all fit to be removed to the work-houses in conformity with the powers given to committees of visitors under the 8th section of the 'Lunacy Amendment Act,' for 1862. Dr. Stephens reports favorably of papering dormitories, and intends to extend it. He appears also to favour a heating apparatus for the wards, and one having failed a second is being erected by Messrs. Haden and Son, of Trowbridge. There would seem to be no lack of amusements at the Bristol Asylum.

Buckinghamshire County Lunatic Asylum.—On the 17th December, 1864, the numbers in the asylum were 129 men, and 150 women,—total, 279.

From the Buckinghamshire Asylum, as from most others, comes the cry of overcrowding, and new buildings are being erected to meet the increased lunatic population.

Mr. Humphrey concludes his report by recording his sense of the loss sustained by "resignation (in consequence of impaired health) of T. Raymond Barker, Esq., who had acted as chairman of the committee for the last ten years."

Cambridgeshire County Lunatic Asylum.—Contained on the 19th December, 1865, males 138—females 159; total, 297.

The two following extracts from the report of the committee of visitors may form useful precedents for other superintendents:—

"2. *Appeals against the Poor Rate on the Asylum.*—During the year 1864, your Committee prosecuted at the Court of Quarter Sessions at Cambridge an appeal against a poors' rate made for the parish of Fulbourn, dated the 28th of April, 1864, by which the asylum and buildings were assessed at £1000 gross, and £900 nets, in addition to £88 10s. 0d. for the grounds and

site of the asylum. In our last report, page 13 (printed copy), we announced that the Court of Quarter Sessions had allowed your Committee's appeal, 'Subject to a special case to be stated by the parties for the opinion of the Court of Queen's Bench.'

"On Saturday, the 6th of May last, the special case was argued at the Court of Queen's Bench, at Westminster, by Mr. D. D. Keane, Q.C., Mr. Douglas Brown, and Dr. Abdy, on behalf of your Committee; and by Mr. Lush, Q.C., and Mr. Mills, on behalf of the parish of Fulbourn. It resulted in a decision in favour of your Committee, so that the assessment of the asylum and grounds was reduced to the same amount, to which the land forming the site of the asylum, &c., was assessed previous to its being purchased by your Committee.

"The Court of Queen's Bench allowed the costs of your Committee's arguing the case before that Court. The Court of Quarter Sessions, on motion by counsel on the 30th June last, ordered the poors' rate to be amended, but directed the parties to pay their respective costs in that Court.

* * * * *

"In January last a relieving officer of the Chesterton union brought to the asylum a female pauper patient named Barker, until then residing at Milton, in that union, with forms filled up for her reception into the asylum. The medical superintendent found that the pauper had been insane for upwards of eleven years, and that her husband had died of typhus fever at Milton, where she resided, only three weeks before the patient was brought to the asylum, the patient leaving a daughter in the same house ill with that infectious disease. Under these circumstances, and from the fact of there not being an infectious ward at the asylum, the medical superintendent, acting on the 53rd section of 'The Lunatic Asylums Act, 1853,' refused to admit the patient into the asylum, which course was fully approved of by your Committee. A correspondence thereupon ensued with the guardians of the Chesterton union, with the view to their reprimanding the medical officer who filled up the forms for the admission of the patient into the asylum, the result being that the guardians fully approved of Dr. Lawrence's conduct in refusing to admit the patient into the asylum, and remarked that the medical officer, in explanation of the matter stated 'that as the order for the woman's removal to the asylum came from the board of guardians, he presumed they were aware from the 'Medical Report Book' that her husband had died of fever, and that he was bound to obey their order.'

Dr. Lawrence in his report mentions a rather curious case. A married woman was admitted in a state of dementia with advanced general palsy and a suspicion of early pregnancy. She was prematurely delivered one night, unknown to the night watch, who observed no change in her condition. The child when found was dead, imperfectly developed, and in date between the sixth and seventh month. As the condition of the lungs left a doubt that it might have been born alive, the coroner thought it advisable to bring the case before a jury, whose verdict was that the child was found in the clothes of the bed, but whether born alive or not there was no evidence to show.

Twenty-seven acres have been added to the asylum land, and have proved very valuable in affording out-door occupation to an increased number of patients, and Dr. Lawrence says he has been enabled to work the twenty-seven extra acres with the same number of paid

labourers as before, and the farm horses have been reduced from three to two in number.

A new ward has been erected for female patients, which will increase the total asylum accommodation to 310.

Carmarthen Joint Counties Asylum.—This asylum, which has been erected near Carmarthen by the joint counties of Carmarthen, Cardigan, and Pembroke for 212 patients, was opened for the reception of patients on the 26th September, 1865; and on the 8th of March, 1866, already contained 61 males, and 41 females; most of these had been for many years either at Vernon House Asylum, or at the Somerset Asylum; and Mr. Wilton, the Medical Superintendent, remarks that the majority were "either chronic, paralytic, idiotic, or demented, leaving only eight with the slightest chance of recovery."

Mr. Wilton has already instituted dances, games, country walks, &c., for the patients, and with marked amelioration in their condition.

Cheshire County Lunatic Asylum.—The Committee of this asylum "regret much," in their report, "having to report the resignation of Dr. Bushfield, consequent on his appointment to the new asylum at Woking, and are glad to take this opportunity of bearing testimony to his valuable services during the past thirteen years. The Committee have appointed as his successor Dr. Henry Lewis Harper, who for five years has been connected with the asylum as assistant medical officer."

Dr. Bushfield records that, as usual, more deaths occurred amongst the males than the females, and he accounts for this by the larger number of males suffering from general paresis than females. This greater mortality amongst the male patients of asylums would seem to be very generally the case, and may be reckoned as one of the items which causes an excess of females over males in most asylums.

Cumberland and Westmoreland Lunatic Asylum.—The number of patients remaining in this asylum on 31st December, 1865, was 132 males, and 107 females. These numbers, however, only show a proportion of the insane belonging to the above counties, and two new blocks are in course of erection, each to afford accommodation for 105 patients.

Writing about his recoveries, Dr. Clouston says that in most of the cases the patients were at first only discharged for a fortnight or a month on trial. The relieving officer of the districts to which the patients belonged very kindly went to see them during their period of probation, and reported to him at the end of the time whether they remained well or not.

Dr. Clouston's death per-centage is very low, being only $6\frac{1}{3}$ on the average number resident, and contrasts favorably with the 12 per cent. of the previous year, when—as the readers of this Journal will remember—dysentery was so prevalent. There were, however, four cases in the spring of this year; and, as Dr. Clouston remarks after their experience of last year, when the cause of this dysentery was so clearly ascertained, it demands explanation how the cause was again allowed to come into operation with such fatal results. Dr. Clouston's explanation being interesting, we make no apology for giving it here *in toto* :

“During the trenching of the field below the sewage tank, the level of the ground through which the covered drain from the tank passed had to be altered, and the drain to be taken up; while this was up, the sewage was shut up in the tank when the wind blew towards the house, and was allowed to run over the land when the wind blew in other directions. While so running over the land, the wind changed to the north one night, and the effluvia was sent directly towards the house. The sewage was promptly stopped in the morning. Six days after this, five patients were simultaneously attacked with dysentery, of the same character as last year. At the time they were attacked, a drain was found to be obstructed under the windows of the ward in which they resided. At first I was doubtful whether the drain or the sewage exhalations from the tank were the cause of the disease. I have now no doubt that it was the sewage exhalations. From most careful observation as the time the sewage poison took to incubate in the system, after being inhaled in the outbreak of last year, I find that it required from three to six days to produce its effect. Now the drain had not been so long obstructed, so that it must have been the sewage from the tank. The method by which I discovered the length of time the poison took to incubate, was by carefully going over the Rev. Mr. Redford's meteorological register, and comparing the period when the patients were attacked, with the times when there had been north winds—the only winds that would carry the poison towards the house.

“Certainly, nothing could more conclusively prove the virulent nature of sewage exhalations, than this unfortunate outbreak of dysentery. Since last March, when this occurred, there has not been the least tendency to the disease among the patients.

“Since the publication of last year's report, considerable attention has been directed to the account I gave of the outbreak of dysentery, and its cause. Many comments have been made on it, and some misapprehension has been shown. To correct this, I may mention that the sewage irrigation, such as it was, was not a ‘crude’ and ‘dangerous experiment’ carried on by me, but an accidental and temporary arrangement that existed before I came here, and that was merely allowed to remain until the field on which the sewage was run, should have been levelled and properly prepared to receive the sewage distributed scientifically. My object in giving an account of it was simply to state the facts of the case, as a most interesting example of how dysentery of a peculiar type could be produced, and as a terrible warning as to the deadly effects of sewage exhalation. I had no intention whatever of expressing or implying any opinion about the general question of sewage utilisation in a proper manner. Surely the solution of most important questions should be rather helped than impeded by such an example of the effects of an improper utilisation.

“Then I have heard it said that the diet or clothing of the patients might have something to do with the disease as well as the sewage. When I say

that the daily food of each patient contains 296 grains of nitrogenous materials, and 12½ ounces of carbon. and that each patient is warmly clothed—when I mention that patients who were on stimulants and extra diet were attacked by the disease, and that a strong, young, robust male attendant, who had only been a few days in the house was one of those attacked last year, I think I have sufficiently disposed of those groundless surmises.

“I have every reason to suppose that the system of deodorising the sewage, *ab initio*, by supplying water impregnated with carbolic acid and lime to the water closets, as recommended by Mr. McDougal, of Manchester, and carried out by you, will be most successful in preventing all offensive odours in the house, and in enabling us to use the sewage anywhere to the land with safety and profit. Mr. Todd has contrived an ingenious arrangement for mixing the carbolic acid with the water, which will save much labour, and do it much more effectively than it can be done by hand. When the cast-iron gutters for distributing the sewage over any part of the land are got, the system of deodorisation and utilisation will be complete.”

The Derbyshire County Lunatic Asylum continues to prosper under the management of its able superintendent. It contained at the end of last year 342 patients, the males and females curiously enough being in equal numbers, and only eight beds are left unoccupied. Additions are about to be made to the existing fabric by which all the patients both of the county and also the borough of Derby may be accommodated.

Dr. Hitchman strongly urges on the committee of visitors the want of a proper chapel, and proposes that the present chapel be substituted for a separate ecclesiastical building on the grounds. His remarks are so pertinent, and so fully bear out our experience of the good effects resulting from a detached place of worship, both at Northampton and Hayward's Heath, that I make no apology for extracting them *in extenso* :

“The chapel services have been conducted with great efficiency by the Rev. W. Findley, the chaplain; and this prompts me to record that the enlargement of the asylum, which has become urgent, which was determined upon at the last Quarter Sessions, and the plans for which have been approved by the Commissioners in Lunacy and the Secretary of State, renders increased accommodation for Divine service absolutely necessary. In proportion as the patients are raised by benign treatment to a better state of mind and feeling, the need of a place consecrated to the worship of the Supreme becomes felt and coveted. It was once thought absurd to permit the insane to attend public worship; it was deemed wrong to allow any to partake of the holy sacrament; but now, thanks to the eloquent teachings of wise and humane men, more correct ideas prevail, and it is known that the immortal spirit may be solaced by religious ordinances, although the brain, the material organ through which its operations are manifested, may be disordered and disturbed. Indeed, nowhere can be found more sincere and devout worshippers than may be seen in any well-conducted lunatic asylum; at this place the room which is used as a chapel is very crowded on the males' side every Sabbath, and although a seat intended for officers is allotted to patients, the need for further room is urgent, and I hope that the magistrates of the county will deem it right to provide for the religious needs of the insane poor in the same manner as the counties of Chester,

Worcester, Lancaster, Middlesex, and York, have provided for their lunatic patients. By increased admissions, and by the conscientious labours of our chaplain, the room allotted to Divine worship has become inadequate for the purpose. The necessity for better provision is further increased by the character which mental derangement now assumes. The violent and frantic mania, once so common, is becoming more rare, and is replaced or represented by morbid gloom, despondency, and great bodily prostration. The intellect is not so wildly bewildered, but the feelings are more deeply affected, and, therefore, the ministrations of a discreet and pious pastor becomes a powerful auxiliary to the physician. The sermons of our present chaplain are prepared to meet the mental conditions of the large number of patients who are suffering from morbid fears and despondency, and his services would be more profitable to the patients, if conducted in a better room. The mere transition of such patients from the walls of their daily abode to a church external to it, and possessing the form and character which are associated in their memories as belonging to a sacred place, would aid in dispersing the shadows which rest upon their feelings, and in strengthening the sacred words which fall from the lips of the preacher. This has been experienced wherever the change has been wisely carried out."

North Wales' Counties Lunatic Asylum, Denbigh, contains 137 males, and 164 females—total, 311.

Mr. Jones complains much of the difficulty of obtaining the services of suitable attendants, more especially females. This he considers to be due to the fact that communication is now rendered so easy by railways that competent female servants seek for situations in the large English towns, thus securing to themselves higher wages and greater advantages. He therefore strongly recommends an advance in the present scale of payment. Having been requested by Mr. Townsend Mainwaring, M.P., one of the committee of visitors, to try and ascertain the cause of the great amount of insanity in Wales, Mr. Jones went into the subject with great care, but found it impossible to come to a satisfactory conclusion. He writes:

"The causes assigned in the certificates of the patients when admitted are very vague and frequently wanting altogether.

"I have compared the number of patients confined in this with other county asylums, and I find we have fewer in proportion to the population than most other asylums, as shown by the following table, according to returns made on the 1st January, 1865.

Name of Asylum.	Population of Counties.	Number of Patients.
Denbigh, North Wales	359,834	248
Abergavenny, South Wales	439,947	450
Bucks	166,597	286
Cambridge	176,950	275
Chester	585,153	435
Cornwall	369,323	324
Cumberland and Westmoreland	266,102	225
Devon	584,531	674
Essex	404,644	521
Hants	481,495	547
Lincoln	411,997	449
Rutland and Leicester	259,261	337
Salop and Montgomery	307,951	403

"These tables, I think, show decidedly that insanity is not so prevalent in North Wales as in other parts of the kingdom."

Essex Lunatic Asylum.—This asylum contained, at the end of last year, 554 patients, of whom 236 were males and 318 females. We find the following in the report of the committee, and sincerely congratulate Dr. Campbell thereon:—"At the last meeting, on the 18th December, the committee, taking into consideration Dr. Campbell's valuable services and increased duties, and desirous of doing justice to his eminent professional attainments and high reputation, unanimously resolved to increase his salary from £600 to £800 a year."

Most medical men attached to lunatic asylums will indorse the remarks of Dr. Campbell when he writes—

"There is no doubt that the treatment experienced by a patient on his entrance into a lunatic hospital in many instances determines the future career of the disease. The persons with whom he is placed, his occupations, amusements, or otherwise, according to the nature of the case, are matters of the first importance. The great objects in view are to collect around the unfortunate inmates as many sources of happiness as are attainable, to give a generous diet, substantial clothing, and careful superintendence, employment, and amusements, wherever these promise to contribute to recovery or relief, or even pleasure. By such a course I find that almost every individual in some degree improves, the most degraded are elevated in the scale of being, improper and filthy habits are eradicated, and peculiarities corrected, and happiness frequently imparted where recovery cannot be anticipated. Every hour of happiness which is given, every degree of additional enlightenment which is gained, is a boon of incalculable benefit to the patient, and places the whole mind in a condition to be benefited by the other measures adopted for its improvement."

Dr. Campbell publishes in his report a very interesting table, showing the number of admissions, recoveries, deaths, and average number resident in the several county asylums during the five years ending 1863; with per centage of recoveries on admissions, and per centage of deaths on average number of patients resident. Unfortunately, it is too long to be reproduced here.

Glamorgan County Lunatic Asylum.—This is one of the most recently opened asylums, being first occupied by patients on the 4th November, 1864; and it is evident, both from the Report of the Committee and of the Commissioners in Lunacy, that Dr. Yellowlees has, under circumstances of no mean difficulty and endless annoyances, been enabled to organise an asylum which will compare favorably with the best of the modern English county asylums.

The Committee report that the present buildings afford accommodation for 350 patients, with all the necessary officers, attendants, and servants; but as it does not seem probable that so large a number of beds will be immediately required for the county, the

visitors propose taking a limited number of patients from other asylums.

Dr. Yellowlees in his report, speaking on the general principles of treatment followed in the asylum, writes :

"They are these :—To remove as far as possible, in each case, any physical cause of insanity, and to promote by every means the general health. To distract the insane mind from its morbid thoughts, by occupation or amusement, and to present to it new and healthy thoughts. To soothe by kindness, to control by tact and firmness, and to invite confidence by candour and truth. To share all the sorrows, cares, and joys of the patients, to interest them in each other, and to make their daily life as comfortable, happy, and homelike as possible. Harshness, punishment, or restraint, are absolutely forbidden. There is not a single strait-jacket, nor anything of the kind, in the whole institution.

As Dr. Yellowlees truly remarks, these general principles are now happily adopted in most asylums for the insane. They cannot, however, be too frequently repeated.

More open to objection are the following remarks :

"The absence of beer from the regular dietary is unusual in asylums, and deserves special notice. It is given with bread and cheese, as luncheon—but only to those patients who engage in some kind of occupation. Very few patients complained of the want of it at dinner, and such complaints have long ago ceased—this is explained by the fact that beer is not a habitual article of diet among the working classes throughout the county. The present system is of much service in inducing some of the idlers to work, and two thirds of the patients now establish a claim for beer, by engaging in some kind of occupation. I deem this a great advantage, and have as yet seen no reason for recommending the introduction of beer into the general dietary, which seems to be both suitable and sufficient without it. Sick or feeble patients, of course, receive beer, wine, or any other extra that their condition may require."

Dr. Yellowlees says two thirds of the patients, viz., those who are able and willing to work, establish a claim to beer; whilst it may be presumed the other one third, who, in our humble judgment, are the very ones requiring a stimulant, being, most probably, the demented, imbecile, and idiotic of the asylum, whose physical condition is invariably bad, have to do without. This fact has been well exemplified lately at the Hayward's Heath Asylum. An eruption of a peculiar nature has for the last few years been prevalent in several asylums and workhouses; indeed, we first saw it at the Gloucester Asylum six years ago. It first appeared at Hayward's Heath about twelve months ago. On first sight it much resembles scabies in appearance, and one of its peculiar features is that it appears on none but the feeble and demented. It is most intractable, and we tried many remedies without success. Under the idea that it was a bastard scabies, some of the patients were kept in sulphur sheets for as long as a fortnight, but without any benefit. It confined itself to one ward, that in which the idiots, epileptics, and imbeciles were resident. The whole of the patients in this ward were put on porter

daily, and the eruption gradually died away. This spring the porter was taken off, and within two months many of the patients were again suffering from the eruption. The porter was returned to, and the patients are now again improved in health and their skins are becoming free.

Hants County Lunatic Asylum.—On the 23rd December, 1865, this asylum contained 275 males, and 317 females, the admissions for the past year having reached the large number of 177.

Dr. Manley commences his report by referring to the large mortality of 16 per cent. for the last twelve months, and explains it thus :

“Speaking generally, the deaths have occurred amongst the older residents:—22 of the patients who died having been here more than 7 years; whilst 42 had been here more than 3 years. Again, 22 have exceeded 70 years of age, and 35 have exceeded 60 years.

“With so large a removal of chronic cases and so numerous admissions into the asylum, it might reasonably be hoped that the class of inmates would for a time at least improve, and the per centage of recoveries increase, but such is certainly not likely to be the case. The admissions during the past year have been of a very unsatisfactory character : 25 patients were in a demented condition ; 18 suffered from paresifying mental disease ; 21 were idiots, in 14 of whom the mental infirmity was complicated with epilepsy ; and ten other patients have epilepsy as a complication to some other form of mental disease.”

Dr. Manley then gives a table showing the ages of the patients now in the asylum, from which it appears that more than 100 are above sixty years of age. This is a very large per centage of aged people, and, as Dr. Manley truly remarks, does not give room for much hope in the future.

With such cases, necessarily all that can be done is to render their few remaining days as little irksome as possible, and to soothe their last hours with kind treatment, generous diet, and gentle nursing. In no asylum is this more carefully carried out than in the Hants County Lunatic Asylum.

Kent County Lunatic Asylum.—On the 1st of January, 1866, the population numbered, of males 325, of females 429—total, 754. This asylum is not, however, large enough to meet the requirements of the county, and Dr. Kirkman writes :

“A detached residence for the superintendent is close upon completion, and the apartments at present occupied by him will be given up to the patients.”

“The overcrowded state of the asylum has for some time been a source of much anxiety, the congregation of large numbers of lunatics in a limited space operates very prejudicially upon all, increasing their excitement and retarding their cure ; this is felt very much in the winter months and unfavorable weather, when frequent recourse to out-door exercise and amusement is inadmissible. The subject is now occupying the serious attention of

the visitors, and it is in contemplation to provide additional accommodation for 500 more patients, as well as entirely new officers, the present ones from the gradual growth of the asylum having become altogether insufficient for the requirements of the establishment. We have now 108 patients more than the asylum is calculated properly to accommodate.

Lancashire County Lunatic Asylum, at Prestwich.—This asylum is capable of accommodating 1000 patients, and on December 27th, 1866, it contained 963. Considerable additions and improvements have been made during the past year. The airing-grounds have been remodelled, broad asphalted walks have been substituted for the narrow gravel footpaths, and a light open paling for the brick walls which previously enclosed them. Pleasant lawns, surrounded by shrubs, have also been formed in front of the rooms.

Lancashire County Lunatic Asylum, at Rainhill, contains 301 males and 356 females—total, 657. Dr. Rogers writes :

“The practice of discharging patients probationally is one which has been generally pretty extensively employed in this asylum, the advantages being—1st. That a patient may be thus sent out at the earliest moment at which it may be considered justifiable both for the welfare of himself and others. 2nd. In some few cases circumstances may occur in the domestic or other concerns of a patient, which by acting as a continued mental irritant are calculated to render detention in an asylum more prejudicial to his or her mental condition than a temporary return to home and social cares and duties, even when it may not be anticipated that a final discharge from restraint will be eventually advisable. 3rd. The knowledge that they still remain under a certain amount of supervision will often tend to act as a check on those who otherwise might be tempted to revert to irregular habits of life; and lastly, though by no means of least importance, it enables the magistrates to take advantage of the beneficent clause in the Act of Parliament which empowers them to make a weekly pecuniary allowance to patients discharged on trial, thus ensuring against a sudden transition from comparative comfort to almost actual destitution, those whose homes have been broken up, and whose means of employment have been temporarily lost in consequence of the affliction which has befallen them, but who by the aid of a little timely assistance may yet be enabled by their own industry to maintain themselves, and to reoccupy their former position.”

Dr. Rogers has occasionally permitted a few of the patients who could be safely trusted to visit their friends and relations, usually going and returning on the same day; but under exceptional circumstances the leave has been extended to two or three days.

Lincolnshire County Lunatic Asylum.—The number of patients in the asylum, April, 1866, was, males 234, females 273—total, 507.

Two new wings, each to contain 80 patients, have been lately opened in this asylum; and Dr. Palmer, in his report, thus describes them :

“The new wings, each affording accommodation for eighty patients, are attached at right angles to the east and west ends of the original structure,

with which they correspond in style of elevation, although they differ very considerably from it in internal arrangement. The upper floor on each side is, with the exception of one room, used for the sewing-machine, occupied by sleeping-rooms, which, after the patients rise in the morning, can be left open to free natural ventilation. The dormitories are provided with seats, washstands, and such other simple furniture as is calculated to arouse and maintain the patients' self-respect, the absence of which is incompatible with recovery. Each dormitory has either an attendant sleeping in it, or is in immediate connection with an attendant's room, and is lighted by a gas-burner shut off from communication with the air of the room, and contrived so that the flame may be easily regulated by the attendant. On the ground-floor are placed the patient's work-room or sitting-room, reading-room, school-room, and library, dining-hall, scullery, bath-room, lavatory, stores, &c. The warming and ventilation are effected by open fire-places with reflecting sides of white glazed fire-bricks, and fire-boxes behind the grates through which fresh air passes from a channel communicating with the outside of the building, and is distributed by means of flues and valves. Each fire takes its supply of air from a valve placed in the hearth. In this way the dormitories are kept aired by the fires in the sitting-room, dining-hall, &c., underneath; and it will, consequently, not be necessary to light fires in them very frequently after the walls are once thoroughly dry. The vitiated air of the rooms passes through openings in the ceilings into foul-air flues, which are carried up in the chimneys between the smoke-flues, and deliver just under the cappings. The windows are all of the ordinary sash kind, but with limited openings, and have a single contrivance to allow a considerable amount of ventilation to take place during wet weather without admitting the rain, or causing a downright draught. The hot and cold water apparatus being found ample to meet the increased requirements, the old pipes have been simply extended into the new building, and a storing-cistern for cold water placed in each wing. The rain water from the roofs is collected, and, after passing through a filter, runs into the well-headings."

The Commissioners in Lunacy, in their Report, speak in the very highest terms of Dr. Palmer's arrangements; and referring to the male refractory patients, they write:

"They were in their own airing-court, which, by the praiseworthy exertion of the attendant who has principal charge of it, has been prettily laid out, and extensively planted with flower-beds. Of these, there are six or seven on the border given over to the exclusive care of particular patients: in one corner there is a small potato plot belonging to a patient formerly of very objectionable habits; the northern wall is covered with gourds, planted a few months since, and to none of these or the flowers has any sort of damage been done by any one. So marked, indeed, has been the beneficial influence of these arrangements on the most troublesome kind of patients, that we strongly recommend them to be tried to the same extent in the corresponding female court, and we are sure that the attempt will be made. We observed with satisfaction the progress already made in enlarging and adapting the A and B airing-courts for use by the additional patients in the new wing of each division. The improvements will comprise a rockery and ornamental work to conceal the wall, a newly-planted avenue of trees, and new roads at the back connecting the courts and forming a walk all round. The construction of these roads has formed an employment for patients whose habits had rendered them unfit for regular farm occupation."

Middlesex County Lunatic Asylum, Colney Hatch, contained, on the 31st December, 1865, males 812, females 1214—total, 2026.

It is but fair to this much-abused institution to state that vast improvement appears to have been made in it during the past year; and even its great antagonists, the Commissioners in Lunacy, were bound in their last report to state that they "have satisfaction in reporting generally that the state and aspect of the several wards, which were very clean and free from all unpleasant odour, and the personal condition of the inmates, exhibit a marked improvement."

The Committee of Visitors, amongst other additions, have, at the request of Dr. Sheppard, erected a Turkish bath at a cost of £300.

Dr. Sheppard reports thus of its efficacy in the treatment of mental disease :

"It will be remembered by the committee that many of its members had a not unnatural mistrust of a power so susceptible of misapplication, and so shrouded in prejudices by the community at large. They will be glad, therefore, to learn from the individual who pressed it so strongly upon their favorable consideration, that the Turkish bath in Colney Hatch Asylum has been an unqualified success. Its power in many forms of disease, especially in melancholia, is most remarkable. Sleep is wooed by its soft influences, and morbid fancies are chased away. It does not appear (so far as my experience yet goes) to shorten the paroxysms, though it certainly mitigates the violence, of acute mania. That it removes many obstructions from our path, and expedites ultimate recovery, is, however, as certain with respect to mania as melancholia. It is known to those who are familiar with insanity that one of the most striking characteristics is a remarkable dryness of skin. In many cases there is a peculiar odour from the scanty dermal secretions, which has given rise to and almost justified the common saying, that you can smell a madman anywhere. This state of things invites the action of the bath. Dry epithelium is peeled from the human covering; poisonous exudations crowd upon it in crystal beads, and not by the lungs only, but by the neglected skin, is oxygen grafted into the circulating current of the blood.

"One of the most noteworthy things in connection with the Turkish bath is the dread with which many patients contemplate its earlier, and the satisfaction with which they regard its later, exhibitions. The measure of its enjoyment becomes the measure of its usefulness and success."

Mainly owing, also, to the exertions of Dr. Sheppard, a handsome theatre has been erected, and amusements of all kinds seem to be regularly offered to the patients. In the female department Mr. Marshall speaks in high terms of a new building called the Convalescent Home, in which additional accommodation is afforded for twenty-eight persons, who, with three attendants, form a complete and separate establishment. In the event of any epidemic breaking out in the asylum, this Convalescent Home would be converted into a hospital for the infected cases.

Joint Counties Lunatic Asylum at Abergavenny.—This asylum contained, at the end of last year, 511 patients—225 males, and 286 females; and there are only nine vacant beds, so that in this, as in most other asylums, there is an urgent demand for increased accommodation.

Middlesex County Lunatic Asylum, Hanwell.—On the 31st December, 1865, there were 1693 patients in this asylum, 629 being males and 1064 females, and there appears to be but little room for an increase in numbers.

The Committee in their report lament the breaking out of the rinderpest amongst the cattle. The cow first attacked recovered, but the whole of the remainder of the stock, being twenty-four cows, one bull, five heifers, and ten calves, altogether forty head, were all attacked and either died of the disease or were destroyed by order of the inspector of the district.

Following the report of the Committee is that of the Commissioners in Lunacy, who allow a certain amount of improvement, but reiterate with but few exceptions all their old complaints. Amongst other improvements, Dr. Lindsay seems to have introduced a more varied supply of amusements.

Dr. Begbie in his report mentions an interesting case which I append in his own words—

There was an inquest also in one of the deaths from apoplexy. This patient, four months in the asylum, forty-four years of age, epileptic, suicidal, occasionally violent, and in whom symptoms of paralysis had appeared, was noticed by the night attendant at early morning with blood upon his face, chest, and bedclothes, which had oozed from what was supposed to be a scratched pimple on the scalp, almost concealed by hair; the man had been comatose the day before, and continued so until his death, three days after. At the examination of the body an opening of the size of a pin's head was observed in the scalp, a little anterior to the coronal suture, and near the mesial line; corresponding to the situation of this opening was one somewhat larger in the skull cap. In the latter a small dark speck was seen, which proved to be a piece of a rusty iron nail, a quarter of an inch in length, and very thin; it had pierced the bone, but not penetrated the dura mater, and was embedded in a portion of the os frontis of the size of a silver three-penny coin, not circular, however, but rather of an irregular shape, somewhat jagged and quite detached from the surrounding calvaria; it was necrosed, and the process of repair had set up, small spiculæ were exfoliating from the inner table of the skull, the membranes were thickened, coagulated blood and fully organised lymph were found on the surface of the anterior lobes of the brain, especially near the spot of perforation, and there was bloody serum in the ventricles. The patient, a plasterer, had many falls from scaffolds in his employment before admission. The nail was ascertained to be a fragment of one such as is used in fastening laths to rafters for ceilings. Whether in one of these falls upon old laths the nail was forced in, or was driven in by himself for a suicidal purpose, could not be discovered. He was not occupied in any way here, and it is thought he could not have inflicted the injury in the asylum. The state of the parts, as described, tends to show that it was not of recent date. The verdict was "Death by apoplexy."

Dr. Lindsay remarks in his report that mania was the most frequent form of the mental malady in those who recovered (43); melancholia coming next in frequency (26), the reverse of the

previous year, in which 3 more recovered from melancholia than from mania.

The Engineer in his report (every one in this asylum seems to write a report, even including the matron) details thus the utilisation of the sewerage which formerly ran into the Brent—

The works in connection with the utilisation of the sewage were started on the 20th of April last, and since that time the whole of the sewage from the asylum (with the exception of a few out-door privies, which are now being removed) has passed through the collecting tanks, the solid matter being deposited therein, and the liquid only passing over into other tanks, and from which it is pumped up by steam power into elevated tanks, for distribution over the land.

Of solid matter so collected there has been removed from the tanks up to this time (and mixed with ashes and other refuse, to render it portable) 200 tons, and no person who once observes the emptying of these tanks would doubt for an instant, I am sure, the necessity that existed for relieving the River Brent of this vast amount of filth.

Of liquid sewage there has been pumped up, on an average, nearly 100,000 gallons daily, giving an average of 53 gallons per head for the whole establishment.

The Farm Committee report that the sewage has been applied with great advantage to the wurzel, Italian rye grass, tares, and barley; leeks, peas, and cabbages.

The Matron advances "as evidence of the improved capacity of the attendants and earnest labours of the officers, that the destruction of clothing, furniture, and window-glass, has gradually and steadily decreased." How different must this overgrown place be from most county asylums, even allowing for greater numbers, when such a paragraph is called for.

Northampton General Lunatic Asylum.—This asylum contains 214 males, and 212 females—total, 426; nearly 100 being private patients.

The Committee of Management commence their report by an "expression of the regret with which they announce the death of the late medical superintendent, Dr. Wing. He had been at the head of this asylum for nearly six years, and had ministered to the afflictions of its inmates with great kindness, and with a medical treatment which the large amount of recoveries fully proves to have been most successful." The writer of this retrospect having laboured with him for some years, and witnessed his zeal, can bear sorrowful testimony to the correctness of this tribute. As Mr. Bayley, the new superintendent, only entered on his duties in December, there is no superintendent's report.

A new building for 50 men has been erected at the low rate of £41 3s. a bed—let us hope it is not "cheap and nasty."

There was a severe outbreak of smallpox in this asylum at the commencement of the year, and on this subject the Committee write—

The profits of the year were further reduced by the building of a temporary hospital for smallpox cases, to the amount of £210. This hospital was built and made fit for the occupation of patients in the short space of four days; and it is but just to the secretary to say that this rapid execution of the work was due to his design and superintendence. All those afflicted with the disease were at once removed to the building, which happily had the effect of preventing the breaking out of any fresh cases.

Northumberland Pauper Lunatic Asylum, contained at the end of last year 277 patients; 139 males, and 138 females. It is full, and the medical superintendent urges on the Committee a necessity for extending the present fabric. This report is chiefly remarkable for its unwieldy size.

Oxfordshire and Berkshire County Lunatic Asylum.—The total number of patients at Littlemore, on the 31st December, 1865, was 466, of whom 219 were males, and 247 females, and there are 97 patients belonging to Oxfordshire in other asylums. This is eventually to be remedied by the erection of a separate asylum for Berkshire. The sewage is extensively utilised in this asylum, and Mr. Ley speaks very favorably of it in a lengthy report, which is unfortunately too long to quote here, and too full of interesting matter to allow of epitome. I am fain, therefore, to refer those interested in this subject to the report itself.

The *Somerset County Lunatic Asylum* contained on the last day of 1865, 225 males, and 255 females, and in this report, unlike nearly all the others we have examined, we find no complaint of overcrowding, which to a great extent is owing to the fact, that the Welsh patients have been removed to the new asylum for Glamorganshire.

Dr. Boyd's report is replete as usual with interesting and instructive matter, and it will be impossible in a brief notice like this to do it anything like justice.

In the early part of the year, the Committee requested Dr. Boyd to visit certain other asylums, and the remarks he made on them have been printed, and incorporated with his report.

A plan (on a reduced scale) of the survey of the asylum and grounds, and the sewerage operations, recently made by Mr. Whitehead, the county surveyor, is prefixed to the report, and is of great assistance in realising the plan, &c., of the asylum.

Post-mortem examinations are made apparently in every case, and the results are published in a series of most carefully prepared tables, which of themselves require a separate review to do justice to them.

The Staffordshire County Lunatic Asylums.—Staffordshire now boasts of two lunatic asylums, a new asylum auxiliary to the old

one at Stafford having been opened under the superintendence of Dr. Davies, at Burntwood, near Lichfield. It already contains 195 patients. The present accommodation is for males only, to the number of 240, but a second portion for females is being rapidly completed. The old asylum contained at the end of last year 217 males, and 252 females.

Dr. Bowers has not for many years used seclusion. It would be interesting to have Dr. Bowers' exact definition of what he considers the word seclusion to imply.

Suffolk County Lunatic Asylum contains 380 inmates, 165 males, and 215 females. Like most others it is overcrowded, and in considering the reasons for this, Dr. Kirkman writes—

There are some remarkable facts which are gaining rapid extension and importance year by year, throughout our increasing population, and fermenting life. A prevalent *uniformity of type*, more or less faint in the disorders of the human body, is observed to rule for some considerable period, and gradually to change. This type has of late years been steadily assuming as its seat the mysterious branches of the *nervous system*. There are many indications that this type will become more marked. It might seem perhaps fanciful to trace this very directly to such subordinate causes as increased immorality, injudicious marriages, increased drunkenness, or diminished or more fitful generation of that elementary substance, ozone, as severally fixing their results in poverty of blood, which too easily establishes itself as hereditary: but there can be no doubt that the immensely accelerated rapidity of life in all its departments; the innumerable streams of duty, business, and thought, hastened by facilities of locomotion, by the intense competition and emulation in all spheres, and by the dense living of increased populations; all create a painful increase of *brain-tax* which must show itself in the spread of all hues of nervous affection, and of insanity in particular.

Sussex County Lunatic Asylum contained on the last day of 1865 233 males, 277 females; total, 510. Extensive additions have been made to the female side of the house, and a like accommodation is to be provided for the males. When these alterations are completed the asylum will contain 700 beds.

A detached building opposite the entrance gates has been purchased, and will be converted into a small hospital (12 beds) for infectious cases.

Two large dining halls, eighty feet by thirty, are also in course of erection, one for each sex.

Warwick County Lunatic Asylum.—This asylum contained at the time of the publication of the report 181 males, and 220 females.

Dr. Parsey thus describes his management, &c.—

In general matters of discipline and treatment, or in appliances for promoting the comfort and health of our inmates, or the recovery of those in whom so happy a result has appeared attainable, there has been no marked change from the practice of former years; and such changes as have been

made may, I hope, be considered as advancement; for, without adopting every novelty that is suggested, or every change that is not also an improvement, I have endeavoured, so far as my own judgment or the experience of others will guide me, to regard our present treatment of the insane as only progressive; or, I may more correctly say, remembering how small is our real knowledge of the mental and physical changes comprehended in the term insanity, as simply tentative: for, as yet, mental disorder is, as it were, an inscrutable mystery, and will probably remain such so long as our ideas of mind, in what we call its sound state, are no more than a series of crude speculations.

Wilts County Asylum.—The insane population of this asylum includes 166 males, and 246 females; total, 412. The weekly rate of payment for patients during the first quarter of the year was 7*s.* 7*d.*, and never reached higher than 7*s.* 10½*d.* in any quarter.

The asylum is full, and increased accommodation is being provided, or is about to be provided, for both males and females.

Utilisation of the sewerage has lately been introduced on to the asylum farm, and Dr. Thurnam writes—

On the farm, the process of irrigation by the sewage has been thought to succeed satisfactorily; and though in some states of the wind, and in close weather, an effluvium is sometimes perceived in the house, no ill effects to health have as yet been traced to it. The regular addition of lime and of a disinfectant liquid (carbolic acid) to the tank, morning and evening, as practised in the Sussex and in some other county asylums, appears to have been useful in the prevention of any deleterious effects. The committee have determined to extend the system to a portion of the land lately acquired, and pipes are about to be laid down over about five acres, to an extent of not more than 250 yards.

In deference to the opinion urged upon the Committee and Medical Superintendent, by the Commissioners in Lunacy, during several years, a system of night watching has, within the last year, been adopted. A night attendant, relieved from all duty by day, has been appointed for each side of the house; and every case such as above described is visited three or four times during each night; the epileptics and sick being likewise specially placed under the night attendant's care.

PART IV.—NOTES AND NEWS.

An Extract from Dr. Paget's Harveian Oration, 1866.

IN following the course of men who have searched out the secrets of nature, we have had regard chiefly to the intellectual powers and processes by which their success was achieved. Let us now, with one more instance, illustrate their moral qualities and temper of mind. Let our instance be the improvement in the treatment of the insane.

We may doubt whether anything in the history of the world can be found more sad or more humiliating to the pride of civilisation than the description we have of the condition of lunatics in the time of our fathers. The influence of kind and gentle treatment was unknown. It had not been tried. Those who aimed at controlling the lunatic sought to do it by severity—by inspiring him with awe and dread. The bath of surprise and the whirling chair were among the most refined of their remedies. Various restraints of a painful kind were regarded as not only necessary, but beneficial. Many persons supposed that insanity was incurable, and that little or nothing could be done for the unhappy sufferer, but secluding him from the eyes of the world, and preventing him from injuring himself and others. Public asylums were looked upon rather as prisons for dangerous persons than as hospitals for the cure of their malady. Hence it followed that the treatment of the insane too often passed from the hands of the physician into those of men destitute of all medical knowledge, unfeeling and unprincipled. Then came neglect and cruelty, and all the horrors of which we read: the manacles and fetters; the iron collars by which the poor creatures were chained to the walls, incarcerated for years in narrow cells, dark, damp, and cold, like mediæval dungeons, and filthy beyond description, or in cages in which they were exposed as a sight for public curiosity, and made a show of like wild beasts; their beds the bare ground, or straw seldom changed; their scanty clothing, or very nakedness; the blows and stripes that aggravated at once their suffering and their malady, and debased them below the very beasts of the field—below all, except their own brutal keepers. It is difficult to realise that this state of things was common in civilised Europe at the close of the last century; and that little more than fifty years ago it had not been wholly abolished in this very town—in the metropolis of the land—where Howard had long before rescued the worst felons from such misery and degradation. And all this suffering and humiliation heaped upon poor creatures, whose only fault was the most terrible and grievous of human afflictions!

Honour to those whose wisdom and courage changed all this! who opened men's eyes and hearts to its folly and its shame!

The honour of the first step is due to Tenon, who published in 1786 the first suggestions for an humane and gentle treatment. Duquin went further. In an *Essay on Insanity** written in 1791, and dedicated to Humanity, he

* 'La Philosophie de Folie ou Essai Philosophique sur le Traitement des Personnes attaquées de Folie,' par Joseph Daquin, 8vo, Paris, 1792.

The Censor's report and imprimatur are dated Chambery, July, 1791. This little essay is in many respects a very remarkable production. The only copy of it with which I have met is in the Library of the Royal College of Surgeons of England.

not only condemned cells and chains, but recommended good diet, fresh air, exercise, and occupation. He urged the advantages of rational and moral treatment, and of gentleness mingled with firmness. He had tried these remedies in the Asylum at Chambéry, and had proved their advantages. In urging their adoption, he certainly anticipated Pinel, and merited an equal fame. Pinel, it is said,* was drawn to the study of Insanity, in 1785, by the shocking fate of a young friend of his, who became maniacal through excessive study, and in that state escaped from his father's house into the neighbouring woods, and was there devoured by wolves. About this time an asylum was established for the treatment of the insane. The first patient was sent to it by Pinel, and it was there apparently he made his first trial of humane and rational treatment. In 1791, the Société Royale de Médecine offered a prize for an essay on the most efficacious means of treating mental derangement. Pinel was one of the competitors. Whether he was successful or not is unknown. The political convulsions of that time have left a gap in the records of the society. In 1792, amidst the tempest of the French revolution, Pinel was appointed Physician to Bicêtre, and there found work to do, the doing of which has for ever placed his name high among the great and the good.

The state of the lunatics in that great Parisian hospital, exemplified all the horrors I have mentioned. Their attendants were malefactors drawn from prison. The madmen were such as were supposed to be incurable. Many of them irritated by barbarous usage had become ferocious and revengeful. Chained though they were, they were dreaded by their keepers. To Pinel they were objects of pity, for he recognised in their paroxysms of fury only the natural outburst of indignation at their wrongs.

He applied to the authorities for permission to remove the chains. Their only answer was to call him an aristocrat, an epithet then almost equivalent to a death-warrant. He then went in person to the commune, and pressed his suit earnestly and warmly. At length it was answered by the wretch Couthon, who said he would visit Bicêtre, and see whether some of the enemies of the people were not concealed among the lunatics. The sights and sounds that met him there soon put an end to his search. He broke off with an exclamation that Pinel must be mad himself to think of unchaining such animals. The required permission was granted, but not without a warning to Pinel that he would fall a victim to his temerity.

Then did Pinel, by one courageous and decisive experiment, prove for ever the soothing influence of humanity and kindness. He began by releasing twelve of the madmen from their chains. How instructive are some of the details!† what a picture is that of the first who was unchained! the English captain of whose history no one knew anything, except that he had been in chains for five and forty years. He was regarded as the most dangerous of all, for in a fit of fury he had killed one of his keepers with a single blow of his manacles. Pinel enters his cell alone, and addresses him calmly: "Captain, if I were to have your irons removed, and give you liberty to walk in the court, would you promise me to be reasonable and not to hurt anybody?" "I promise; but you are making game of me; they are too much afraid and so are you." "I'm not afraid, for I've six men at hand to make me respected, if necessary; but take my word, I will give you your liberty if you will let this waistcoat be put on you instead of the irons." The captain submits willingly, shrugging his shoulders, without a word more. The

* 'Eloge de Pinel,' par Pariset. 'Mémoires de l'Académie Royal de Médecine, 1828.

† *Bicêtre en 1792*,—'De l'Abolition des Chaines.' Par Scipion Pinel. 'Mémoires de l'Académie Royale de Médecine,' 1836. Also in 'Traité du Régime sanitaire des Aliénés.' Par Scipion Pinel, Paris, 1836.

chains are removed, and he is left in his cell, the door open. Several times he raises himself from his seat and falls again; he had been sitting so long that his legs were stiff and weakened by disease. In a quarter of an hour he gets on his feet, and comes tottering to the door of his cell. His first look is at the sky, and he cries out in ecstasy, "How beautiful!" During the rest of the day he is constantly in motion walking up and down the staircase, and exclaiming again and again, "How beautiful! how good!" At night he returned of his own accord to his cell, slept tranquilly on a better bed which had been prepared for him, and during the two remaining years he passed at Bicêtre his paroxysms not once returned, and he made himself useful in the house, exercising a certain authority over the lunatics.

Then the second, an old French officer, who had been in chains thirty-six years. His maniacal delirium had ceased, but reason had not returned. He sat mute and motionless, with rigid and shrunken limbs, still in the same chains, though he had become too weak even to lift them. They were removed, and he was carried to bed in the infirmary, and lived some months longer, but never became conscious even of his deliverance.

Three unhappy Prussians who had been chained for many years, nobody knew why, and who were habitually calm and inoffensive, resisted violently the removal of their chains, and would not leave their cells, apparently suspecting that some worse mischief was intended.

Perhaps the most interesting of all was a French soldier, famous for his enormous strength, who had been fastened to the wall with a chain and iron collar ten years. Pinel perceived that his excitement was kept up only by ill-usage, and on liberating him at once engaged him to assist in releasing others, and promised, if he behaved well, to take him into his own service. The cure was completed on the instant. From that moment the man became a model of good conduct and gratitude. During the reign of terror he several times saved the life of Pinel, and the rest of his days were spent in one continuous act of devotion to his benefactor.

In the course of a few days fifty-three of the poor creatures were liberated from their fetters; and then tranquillity came over the place which had so long resounded with cries and howlings and clanking of chains.

It was the close of the year 1792. Terror then reigned throughout the rest of Paris. But within the walls of Bicêtre an ancient reign of terror had ceased; a bloodless revolution had been accomplished by the courage, humanity, and wisdom of one man searching for nature's secrets by experiment.

Amidst this blessed calm of his own creating Pinel pursued his study of mental disorder; regulating with assiduous care the internal arrangements of the hospital, comparing, month by month, and year by year, the results of his treatment; for severity and violence substituting the moral influence of gentleness and kindly attention; and seeking to correct what was deranged by appealing to what was yet sound. He thus established a system of treatment which soon bore the fruits of numerous and striking cures.

The treatise in which he gave to the world, in 1801, the happy results of this large experience, must ever mark an epoch in the history of medicine. It made inexcusable the gross ignorance which had prevailed respecting the habits and tendencies of the insane. It established principles for their treatment equally sagacious and humane.

The treatment of insanity by some English physicians of our own time illustrates what Bacon calls *productio experimenti*. Pinel's experiment has been extended; it has been urged to an *effect more subtle*. When an experiment is thus pushed further, the result we know, in some cases, differs from the original conclusions. These are proved to be less general than had been supposed, and lose their pretensions as laws of nature. How then

has it fared with Pinel's conclusions when tried by an extension of his experiment?

Pinel and the early reformers, while abolishing chains and other obviously degrading means of restraining lunatics, did not deem it expedient to abolish all mechanical restraints. They still employed the strait-waistcoat in certain emergencies; and other physicians less enlightened than they were, continued the use of various mechanical contrivances both hurtful and humiliating to the patients. To abolish these was to repeat Pinel's experiment: to abolish also the strait-waistcoat and all mechanical restraints whatever, was an extension of the experiment. This trial was first made at the Lincoln Asylum. Under the direction of Dr. Charlesworth the various instruments of coercion were, in the course of years, one by one discontinued, until in 1837, when Mr. Gardiner Hill was house-surgeon, the last mechanical restraints were wholly abolished.

In June, 1839, Dr. Conolly was appointed resident physician at Hanwell. In September he had abolished all mechanical restraints. The experiment was a trying one, for this great asylum contained eight hundred patients. But the experiment was successful; and continued experience proved incontestably that in a well-ordered asylum the use even of the strait-waistcoat might be entirely discarded. Dr. Conolly went further than this. He maintained that such restraints are in all cases positively injurious, that their use is utterly inconsistent with a good system of treatment; and that, on the contrary, the absence of all such restraints is naturally and necessarily associated with treatment such as that of lunatics ought to be, one which substitutes mental for bodily control, and is governed in all its details by the purpose of preventing mental excitement, or of soothing it before it bursts out into violence. He urged this with feeling and persuasive eloquence, and gave in proof of it the results of his own experiment at Hanwell. For, from the time that all mechanical restraints were abolished, the occurrence of frantic behaviour among the lunatics became less and less frequent.*

* Time would not have permitted me to give a complete history of the improvement in the treatment of the insane, even if I proposed so to do. Such a history would have required some reference to the efforts of the philanthropic Duc de la Rochefoucauld, and a more particular mention of the aid given to Pinel by his assistant, Pussin, an unlettered but very remarkable man. Living in the midst of the insane, Pussin had a thorough insight into their habits and all their symptoms. From him Pinel acquired much knowledge of details. He had even anticipated Pinel in venturing to release some of the madmen from their fetters. When, three years after the reform at Bicêtre, Pinel was solicited to undertake the like task at the other great hospital, La Salpêtrière, he made it a condition of his acceptance of the charge, that there also he should have the aid of Pussin.

The reform in the treatment of lunatics in England had its origin in the well-known "Retreat," near York. This asylum was projected by William Tuke and other members of the Society of Friends in 1792, and was opened for patients in 1796, the first physician being Dr. Fowler. The first superintendent having died at the end of two months, William Tuke, though not a member of the medical profession, undertook the office for nearly twelve months, until a suitable successor could be found. George Jepson, who was then appointed to be resident apothecary and superintendent, contributed much to the success of the gentle treatment. (See the Description of the Retreat. By Samuel Tuke, 1813.)

There are reasons for believing that the chief public asylums of England were in a better state than those of France prior to Pinel's reform at Bicetre and La Salpêtrière.

Tenon in his '*Mémoires sur les Hôpitaux de Paris*,' 1788 (p. 393), says:—

"Les deux Hôpitaux de fous les mieux conçus que nous connaissions sont ceux de Bethlém et de S. Luc à Londres, &c."

And again, in his Preface, p. xxv,—"*Le premier remède est d'offrir au fou une*

Thus did the experiments of Charlesworth and Conolly confirm the principles of treatment inaugurated by Daquin and Pinel; and prove that the best guide to the treatment of lunatics is to be found in the dictates of an enlightened and refined benevolence. And so the progress of science, by way of experiment, has led men to rules of practice nearer and nearer to the teachings of Christianity. To my eyes a pauper lunatic asylum, such as may now be seen in our English counties, with its pleasant grounds, its airy and cleanly wards, its many comforts, and wise and kindly superintendence, provided for those whose lot it is to bear the double burthen of poverty and mental derangement—I say this sight is to me the most blessed manifestation of true civilisation that the world can present.

This result we owe to the courage and philanthropy of such men as Pinel and Conolly. Pinel's large acquirements and practical intellect would alone have availed nothing; his first step would never have been taken but for the generous impulses of a feeling heart and courageous spirit. Conolly's experiment at Hanwell would have been foiled by opposition and discouragement, had he not been sustained by a spirit of earnest benevolence towards his unhappy patients.

The spirit which animated these two men is the spirit without which much of the progress of practical medicine would have been impossible. For, however diverse may be the intellectual powers that find their several fit places in the study and practice of medicine, there is but one right temper for it—the temper of benevolence and courage; the temper in which Larrey invented the *ambulances volantes*, that he might bring help to the wounded under fire; the temper in which physicians have devoted themselves to the study of the plague and other infectious fevers; that same temper which has originated and sustained the highest Christian enterprises, and which ennobles any man who, possessing it, with an honest and true heart does his duty in our profession.

The Association for the Promotion of Social Science.

THE Association for the Promotion of Social Science has excited something of opposition and ridicule by the very largeness of its pretensions. The word “social” and the word “science” are among the most comprehensive in the language, and the scope of each is not lessened by its union with the other. When, then, a number of ladies and gentlemen met together some years since to “promote” social science, the discerning part of the public guessed that the result would be the delivery of a great number of

certaine liberté de faire qu'il puisse se livrer mésurément aux impulsions que la nature lui commande; ce qu'on a très bien compris et exécuté aux Hôpitaux de Bethléem et de Saint-Luc à Londres.”

Daquin, in his essay already referred to, when treating of the construction of asylums, adds in a note:—“Il y a à Londres l'hôpital de Bethléem où les fous sont traités avec toute l'humanité et tous les soins imaginables, et à Manchester on en a bâti un depuis peu, où, d'après le compte qui en a été rendu, les succès ont été étonnans.”

In ‘Observations on Insanity,’ by John Haslam, Apothecary to Bethlehem Hospital, 1798, the moral treatment recommended is kindly and not unwise. (I have not seen the edition of 1794.) It seems as if the treatment of Lunatics in Bethlehem Hospital had deteriorated between the end of the last century and the time of the Parliamentary inquiry in 1814. The period was one in which the thoughts and energies of England were engrossed in war.

According to Daquin (op. cit.), the knights of Malta were accustomed to treat their insane patients with gentleness and kindness. If so, they were not altogether degenerate representatives of their once famous order.

erratic essays on things in general, with, probably, very little indeed of true scientific thought or method. Successive meetings have confirmed this foreboding, and we are afraid that, though the association may become every year more social, it will become less scientific. But we have never had a doubt that such an annual assembling is likely to do a great deal of good. If it were called an association for earnest and philanthropic conversation, it would be rightly named. There is a good, utilitarian, *Penny Magazine* purpose about the members which deserves all praise, and they do talk about things which are very important, and on which it is desirable that people should exchange opinions. The Association will probably bring forth a few new ideas, and popularise others that are too little known. It will encourage people to write an essay about some matter which they understand, since they will be secure of getting an audience, and will not have the trouble of finding a publisher. But chiefly it will have the effect of enlisting many who have leisure in the cause of practical well-doing. One of the strongest impulses among those who have affluence, combined with a certain measure of ability, is to find some philanthropic works which shall recommend itself to their reason more than almsgiving, or worrying the poor by visitings. A great good may be achieved by making such persons sensible that there is a field for systematic benevolence,—that there are sound principles on which they can confer the greatest amount of happiness on the greatest number. To make observations, to collect statistics, to attack abuses, to cause apathy, to agitate against bad laws and to study the principles of better ones, are labours in which thousands of prosperous and not overworked people in these islands can combine, and from which they would derive more satisfaction than from their present often misdirected efforts.

The Association has, we think, no reason to regret the choice of the president for the present year. Lord Brougham, with his wide and receptive mind, his encyclopædic reading, and his appreciation of every form of knowledge, represented rather the weakness of the Association than its strength. His discourses "*de omni re scibili*" had a tendency to encourage his admiring followers to disquisitions on everything that can affect mortality. As abstracts of what had been achieved by the human race during the year before and what ought most to engage the attention during the year to come they were excellent, but they were dangerous guides to ambitious ladies or young gentlemen with a turn for omniscience. On the other hand, we have seldom read a more useful "inaugural address" than that of Lord Shaftesbury. The tendency of it is to correct the faults which most easily beset the institution over which he presides. Lord Shaftesbury has had the good sense to confine himself to a single subject, one which he thoroughly understands, and on which his remarks will have the weight due to experience and recorded achievements. With singular force and eloquence he depicted the state of the working people of this country, and showed how much remains to be done before it is possible that they should become healthy, moral, and enlightened. After giving the association the praise that duly belongs to it—that of disseminating and popularising correct notions on matters of great importance, such, for instance, as the treatment of the epidemic which has lately visited us, and after having encouraged his friends to persevere, even though their ideas might not meet immediately with success, Lord Shaftesbury devoted himself to the most practical of all practical questions,—the condition of this vast labouring class of whom we hear so much, but of whom even those who directly employ them know so little. Since he began his labours many years ago there has been, indeed, a mighty change. The "great condition of England question" has pretty well settled itself, intolerable distress and its concomitant, fierce discontent, have passed away. The scenes which saddened the early years of the present reign are

not likely ever to reappear. In those days humane men felt that the enjoyment of their own prosperity was made impossible by the sufferings around them. Railways and free-trade, by tripling the commerce of the country, have removed the greatest of these evils; and we have the comfort of feeling that future struggles will be easy in comparison with those through which we have passed. The danger, indeed, is that we should fancy that little now remains to be done. There is a general chorus of gratulation on the "state of the nation," that frightful topic of the old times. Every speaker and writer point out that the wages are rising, that the produce of taxes yearly increases, that mechanical science is preparing a millennium in which there shall be richer people than ever. It is a good thing that some one should rise now and then to tell us that this progress is not universal, or rather that in the general advance the weak and the halting are trodden down by the onward rush. It may be too much to say that the poorest class, for which Lord Shaftesbury pleads, has made no advance, but what is a positive progress may be a relative retrogression, and certainly the state of hundreds of thousands, particularly in our great towns, appears more dismal than ever, through being contrasted with the comfort and even luxury to which the classes above them have become accustomed. There is, first, the pest of ignorance. With all that has been done, the children of the poor are not educated. Education has been the cry of the age as long as any but old men can remember, and yet there is the fact that a large proportion even of the young adults cannot read, much less write. This is a subject on which every one who speaks seems to be afraid of committing himself, and we have no desire to propose any solution of our own. But we may say that we do not believe that the ignorance of the working classes, urban or rural, arises either from theological jealousy among their teachers, or from the apathy of an aristocratic legislature. If there be any fact clearly established, it is that there are money and teachers forthcoming to give every child in the three kingdoms an excellent education. The whole machinery is ready; nothing is wanted but the power to compel attendance. Lord Shaftesbury understands the matter too practically to rail at the House of Commons, which has done all that public opinion would allow it to do. He shows that it is the demands of labour which take the child away from the school. Though everywhere that instruction has been combined with work, as in the half-time system, it is found that the work is better done, yet the greed of parents and the pitiless demands of employers refuse to spare the scholar for the school. This is the real difficulty, and until public opinion allows the State to interfere and claim the tender mind as its own, there will be no thorough education in England. The same power which protects the woman and the child from excessive or unfit labour in certain trades must be wielded before the young can be delivered from ignorance.

Yet even this protection from prostrating toil is very inefficiently given, and Lord Shaftesbury, turning to another branch of his subject, says,—“I appeal to you on behalf of 1,400,000 children, women, and young persons still under the slavery of cruel and oppressive trades, who are to this hour without the pale of legislative protection. While I leave the remainder, I must dwell for a moment on the abomination of the brickfields. . . . There the female seems to be brought to the lowest point of servile ignorance and degradation. Hundreds of little girls from eight to eleven years of age, half naked, and so besmeared with dirt as to be barely distinguishable from the soil they stand on, are put to work in these abodes of oppression. Bearing prodigious burdens of clay on their heads or in their arms, they totter to and fro during many hours of toil.” Such is England at the present hour. It is clear that here, too, the nation must consent to enlarge the powers of the State before the evil can be effectually met. We may call

attention to another part of the address, because the opinion of the speaker coincides with that which we have frequently expressed. Lord Shaftesbury attributes the moral as well as the physical mischiefs which beset the lowest class to the wretched state of the dwellings in which they live. That typhus and cholera, and general permanent debility, should be caused by a narrow and undrained lodging is obvious enough, but it is not every one that perceives how drunkenness, profligacy, and general moral degradation, are directly the consequences of choked rooms, filthy smells, and the want of the appliances of cleanliness. That such is the case, however, is beyond a doubt. The craving for gin is the almost inevitable result of living in a vitiated atmosphere, and long experience has convinced the most persevering schoolmasters that it is almost impossible to educate children who inhabit the worst kind of courts. Here are certainly facts, not only for the Social Science Association, but for Parliament, and they all seem to point one way—that is, in the direction of more efficient State control. The most stalwart partisans of *laissez faire* must be shaken in their creed when they consider these things. It may be that we shall have to approach to Continental usages in many of these matters. How far, and by what machinery, are questions which the Social Science people might well consider.—*The Times*, October 6th.

Psychological Experts.

It is the fashion to say that medical men in general are not good witnesses. The recent case of *Hunter v. Sharpe*, at least, lends no support to such a theory. The medical evidence for the defence was admirably given; where all were good it would seem invidious to mention names, but Dr. Williams's evidence was especially noticeable. The masterly way in which the questions of counsel were met, and the clearness and force with which the points were brought forward, reflect much credit upon the scientific witnesses engaged. If psychological experts were as careful and as exact we should not so often see the contempt of juries for their opinion, exhibited by verdicts opposed to their evidence. We hope to have seen the last of "sensational" lunacy trials; should one again arise, let the experts imitate in their manner of giving evidence the careful precision, the calm, unbiassed manner, and the knowledge of the subject, shown by the medical witnesses in the late cause.—*The Lancet*, December 8th.

Lunatics at Home.

If the Commissioners of Lunacy should be induced to supplement the asylum system of England by the farming lunatics in private dwellings—and the deficiency of existing accommodation has been so marked for some time that we have before been induced to recommend that course—one thing must necessarily and immediately follow—a great addition to the inspecting power of the board. At present lunatics in dwellings are practically un-inspected in England; that is to say, they are not inspected more than once a year, and if in the house of a relative not at all. Chancery lunatics only are, under such circumstances, inspected four times annually. It is the characteristic danger of the cottage and private house system, that it lends itself very readily to abuse. The history of Scottish lunatics showed this very fully; and, until lately, the grossest abuses existed where lunatics were confined in private dwellings in that country. A more perfect system of

supervision is believed to have cured this evil; and we see no reason why what now works well in Scotland should not be introduced into this country. But, if lunatics are kept at home, one of the characteristics of the home which Englishmen prize—its privacy—must be surrendered.—*British Medical Journal*, December 22.

Increase of Insanity.

It need not excite surprise to read that the three large asylums for the county of Middlesex are full, and that extended accommodation for the insane poor is urgently required all over England. The subject is now under the serious consideration of the Commissioners in Lunacy, who will advise the Home Office. The question before them is not so simple as it may seem. A very general feeling has arisen that the system of building enormous and expensive asylums has been carried far enough, and that the lunatic and idiot poor may be better cared for, at less expense, in smaller buildings or in private dwellings. It must not be thought that insanity is increasing because more asylums are required. The improved modern treatment has done much to diminish the number of lunatics, who are not now in greater numerical proportion to the population than they were ten years ago.—*The Lancet*, December 15.

Circular by the Commissioners in Lunacy.

OFFICE OF COMMISSIONERS IN LUNACY,
19, WHITEHALL PLACE, S.W.;
15th December, 1866.

SIR,—Referring to the enactments of the Legislature for the protection of lunatics against ill-treatment by attendants at lunatic asylums, registered hospitals, and licensed houses, I am directed to call the attention of the authorities at such institutions to the enclosed copy of a pernicious document which has lately been put in circulation. The Commissioners direct me, at the same time, to intimate that all statutory notices to them of dismissal of attendants should contain the full particulars of any ill-treatment assigned as the cause of such dismissal, inasmuch as, in the absence of those particulars, the notices have been found to be practically useless. I am also to remind you, that a list is kept at this office of all attendants dismissed for misconduct from asylums, registered hospitals, or licensed houses, and to suggest that more frequent reference thereto by medical superintendent and proprietors would be found useful.

I am, Sir, your obedient servant,
CHARLES PALMER PHILLIPS,
Secretary.

1, DEVONSHIRE PLACE, TURNHAM GREEN,
MIDDLESEX;
November 29th, 1866.

TO ATTENDANTS.—A subscription has been opened on behalf of Henry Burton and Edwin Morgan, two attendants at the Surrey Lunatic Asylum, who are undergoing a sentence of imprisonment for violence to a patient in that establishment. Reports of the case will be found in the London papers, October 24th.

Those attendants who consider that at any time and no fault of their own, they may find themselves under similar circumstances, are earnestly besought to contribute their *mite*.

The smallest sums in stamps, or P. O. O, made payable to G. POWELL, Post Office, Turnham Green, Middlesex, and at the above address, will be thankfully received and acknowledged by post. At the close of the subscription, the amount will be advertised in the 'Standard,' 'Weekly Times,' and 'Lloyd's Weekly London Paper.' Any further information will be gladly given on writing to the above.

Yours faithfully,
GEORGE POWELL, *Attendant*.

Publications Received, 1866.

(Continued from the 'Journal of Mental Science' for July.)

'A Manual of Practical Hygiene. Prepared especially for Use in the Medical Service of the Army.' By Edmund A. Parkes, M.D., F.R.S., Professor of Military Hygiene in the Army Medical School, &c. London: Churchill and Sons. 1866. Pp. 624. Second edition.

'Army Hygiene.' By Chas. A. Gordon, M.D., C.B., Deputy Inspector-General of Hospitals, Army Medical Department, Member of the Sanitary Commission for Bengal. London: Churchill and Sons. 1866.

We notice with great pleasure the appearance of a second edition of Professor Parkes' admirable treatise on Practical Hygiene; a work, of the first edition of which we took occasion to express a most favorable opinion (see 'Journal of Mental Science,' April 1866). Dr. Gordon's work is more specially confined to Army Hygiene. It is printed, we observe, in Calcutta. We shall recur to the subject of Hospital Hygiene in our next number.

'A Practical Treatise on Apoplexy (Cerebral Hæmorrhage); its Pathology, Diagnosis, Therapeutics, and Prophylaxis; with an Essay on (so-called) Nervous Apoplexy, on Congestion of the Brain, and Serous Effusion.' By William Boyd Mushet, M.B. Lond., Physician to the North London Hospital for Consumption, &c. London: Churchill and Sons. 1866. Pp. 194. (*See Part II, Reviews.*)

'Observations on the Pathology of some of the Diseases of the Nervous System.' By Samuel Wilks, M.D. From the 'Guy's Hospital Reports,' vol. xii, 1866.

'Remarks on some of the Functional Diseases of the Nervous System.' By Samuel Wilks, M.D., &c.

We are compelled to defer to our next number an analysis of these remarkable papers.

'Diarrhœa and Cholera; their Nature, Origin, and Treatment through the agency of the Nervous System.' By John Chapman, M.D. Trübner and Co. 1866. Second edition.

In this work Dr. Chapman applies to cholera his well-known views of the pathology of disease, and of its treatment through the agency of the Nervous System. Our readers have had the opportunity of seeing these views expounded in this Journal by the author himself, and it is not necessary, therefore, that we enter here into an exposition of them. We may say, however, that they are now applied by

Dr. Chapman with wonderful ingenuity to explain all the phenomena of cholera, and that his principle of treatment is confidently recommended as promising the best success in this formidable disease. The power of the cerebro-spinal system to modify the nutrition of the ultimate elements of the tissues is a fact which, broadly stated, can admit of no dispute; and we think it a pity that Dr. Chapman has overlaid it with theories that appear to be without proper foundation. For example, he has really gone out of his way to complicate matters in the present work by the assumption of a so-called positive motor nerve going from the cerebro-spinal system to the elements of a tissue, and of a so-called negative motor nerve going from the sympathetic system to the vessels. Now, there is not only no evidence of the existence of any such special distribution of nerves, but there is evidence in the experiments and observations of Lister, on the early stages of inflammation, and on the movements of the pigment granules in the stellate cells of the frog's skin, that the vessels themselves are under the control of the cerebro-spinal system, and that the influence exerted upon them is very much akin to that exerted upon the ultimate elements. Holding that the element of truth which there is in Dr. Chapman's new method of treating disease has not received the attention which it merits, we cannot but regret that he should thus have needlessly aggravated the difficulties which it has to contend with. Apart, however, from all peculiarities of theory on the author's part, the present work will be found to contain a clear and complete account of what is known of cholera, and an acute and instructive criticism of the theories of its nature which have been propounded by different writers.

'The Convolutions of the Human Cerebrum topographically considered.' By William Turner, M.B. Lond., Senior Demonstrator of Anatomy in the University of Edinburgh. (Pamphlet.)

This is a reprint, with additions, of a paper which appeared in the 'Edinburgh Medical Journal.' It contains a clear and concise description of the convolutions of the brain, and will be found most useful in furnishing a faithful and compact account of the state of anatomical knowledge of a subject which has of late received so much attention. Mr. Turner gives not only the results of his own observations, but the results of the researches of the best anatomists, English and Foreign. He has done well, in an unpretending manner, what was very much needed, and what will doubtless save much weary labour to others.

'A Treatise on Emotional Disorders of the Sympathetic System of Nerves.' By William Murray, M.D., M.R.C.P. Lond., Physician to the Dispensary, and Lecturer on Physiology in the College of Medicine, Newcastle-on-Tyne. London: John Churchill and Sons. 1866. Pp. 118. (See Part II, Reviews.)

'Clinical Histories, with Comments.' By Henry Day, M.D., M.R.C.P., Physician to the Stafford County Infirmary. London: John Churchill and Sons, New Burlington Street. 8vo. Pp. 254.

We shall refer to Dr. Day's "Clinical Histories," 8 and 9, 'Epilepsy from Peripheral Irritation,' and 'Epilepsy from Hepatic Congestion,' in our next Report on the Progress of Psychological Medicine—"English Literature."

'Acholic Diseases; comprising Jaundice, Diarrhœa, Dysentery, and Cholera.' By Alex. Chas. Macleod, L.K.Q.C.P.I., Member of the Royal College of Physicians of London; Surgeon-Major on Her Majesty's Madras Establishment. London: John Churchill and Sons. Post 8vo. 1866. Pp. 230.

Contains a sensible Chapter on Sanitary Conditions.

'The Tropical Resident at Home: Letters addressed to Europeans returning from India and the Colonies, on subjects connected with their Health and

General Welfare.' By Edward J. Waring, M.D., M.R.C.P. London: John Churchill and Sons, New Burlington Street. 1866. Crown 8vo. Pp. 242.

A most readable book, full of excellent suggestions.

'Cholera: its Seat, Nature, and Treatment.' By Charles Shrimpton, M.D., Chevalier de la Légion d'Honneur. London: John Churchill and Sons. 1866. Pp. 109.

Contains as an appendix Dr. Beale's valuable Researches on the Microscopic Anatomy of Cholera, originally published in the 'Medical Times,' August 4th and 18th.

'Malaria, the Common Cause of Cholera, Intermittent Fever, and its Allies.' By Dr. A. T. Macgowan. Pamphlet. (*A Reprint from the 'Medical Mirror.'*)

'On the Treatment of Pulmonary Consumption, by Hygiene, Climate, and Medicine.' By J. Henry Bennet, M.D. John Churchill and Sons, New Burlington Street, 1866, pamphlet.

Dr. Bennet writes wisely and well on the several influences of hygiene, climate, and medicine, on the progress of pulmonary consumption. We confidently endorse all Dr. Bennet's statements of the vast superiority of the winter climate of the Riviera (the coast line which forms the north shore of the Mediterranean from Cannes to Pisa) in the treatment of all diseases characterised by organic debility to any that can be found in the British Isles. Indeed, it is a mere delusion for the invalid to seek change of winter climate in England.

'Homœopathy and Hydropathy impartially appreciated, with Notes Illustrative of the Influence of the Mind on the Body.' By Edwin Lee, M.D. Fourth Edition, re-issued. With Supplementary Remarks on Homœopathy. London: John Churchill and Sons, New Burlington Street, 1866.

The reviewer of a recent pamphlet ('True and False Sciences') on Homœopathy, in the last number of the 'Westminster Review' (Oct., 1866), remarks on the pretensions and shallow sophistry of Homœopathy:—"Were the question one in which evidence had any weight, or argument availed aught, there could be no further ground of dispute; but credulity has never shown itself affected by argument, and a system which rests on no principle but the principle that there are many people always ready to be deceived by a boldly sustained imposture, and which has no rule of practice really adhered to by its disciples, is not likely to suffer much from the most logical demonstration of the fulseness." Dr. Lee's work is of an inferior stamp to the essay thus referred to by our contemporary.

'Cancer: a New Method of Treatment.' By W. Broadbent, M.D., London; Assistant Physician to St. Mary's Hospital. London: John Churchill and Sons, 1866, pamphlet, pp. 28.

A suggestion to treat cancer by the local injection of acetic acid. The results already obtained by Dr. Broadbent are most encouraging.

'On the Functions of Articulate Speech, and on its connection with the Mind and the Bodily Organs.' By W. T. Gairdner, M.D., Professor of Practice of Physic in the University of Glasgow. Glasgow, 1866 (pamphlet).

A most able essay. We shall refer to it more fully in our next report on English psychological literature.

'La Medicina Legale delle Alienazioni Mentali studiata col Metodo Esperimentale.' Saggio del Dottore Cæsare Lombroso, Incaricato della Clinica di Malattie Mentali nell' Università di Pavia. Padova: Premiata Stab. di P. Prosperini, 1865.

'Casi Clinici Psichiatrici del Prof. Cæsare Lombroso. Bologna: Tipii Fava e Garagnani, 1866.

These papers will be noticed in our next report on Italian psychological literature.

'A Few Thoughts concerning Infanticide.' By Mrs. M. A. Baines. Chapman and Hall, 193, Piccadilly, 1866 (pamphlet).

A Reprint from Dr. Lancaster's 'Journal of Social Science' for August, 1866.

'Statistique de la France.' Deuxième série, tome xiv. Statistique des asiles d'aliénés de 1854 à 1860.

The most accurate volume of Lunacy statistics which we have yet seen. It is a model of what might and ought to be done for England and Scotland. We shall hope in an early number to give an analysis of this official document.

'Sanct Hans Hospital og Claudi Rossets Stiftelse et Mindeskrikt.' Af C. A. Gad, Reservelæge ved Hospitalet. Kjobenhavn, 1866.

Contains some well-executed drawings and plans of the asylum, together with an explanatory text, &c., which our ignorance of the Danish language prevents our profiting from.

'Clinical Lectures and Reports by the Medical and Surgical Staff of the London Hospital.' With an Appendix on the recent epidemic of Cholera. Vol. iii, 1866.

This volume contains two papers by Dr. Langdon Down "On Marriages of Consanguinity in relation to Degeneration of Race," and "Observations on an Ethnic Classification of Idiots," to both of which we shall revert in our next report on English psychological literature.

The 'Allgemeine Wiener Medizinische Zeitung,' November, 1866.

Contains a report of the meetings of the K. K. Gesellschaft der Aerzte, October 19th and November 2nd, at which our indefatigable associate the Baron von Mundy (Regimentsarzt) brought forward the question of Lunatic Colonies (Irrencolonien), which he advocated with his usual zeal and eloquence. With regard to the general advancement of Psychological Medicine, it is, according to Baron Mundy, of small account. In most asylums which he has visited he has found the post-mortem room covered with dust, the knives rusting unused. In therapeutics less progress still is to be observed. Lunatic palaces, he says, have been built in Germany for the adornment of every small capital, but little or no treatment is carried out. The administration of the public asylums throughout Europe is also, according to Baron Mundy, most faulty. Light, air, and freedom are alike denied to the insane. Of the 500,000 lunatics in Europe, 20,000 only are treated without the seclusion of an asylum. Passing to the question of restraint, the Baron testifies to the brilliant success (die glänzendsten resultate) of the English non-restraint system, which he contrasts with the seclusion in cells and the strait-jacket system of the French asylums. He passes then to an account of Gheel—a city of refuge, he holds, for the insane "until these calamities be overpast"—which he urged on the imitation of the authorities of Vienna. Professor Schlager defended the science of Psychology from Baron Mundy's attacks. It had (he asserted) made great progress in recent time. While doubting the practicability (as we also do) of founding another Gheel in the thickly peopled countries of Europe, Professor Schlager gave his warm adherence to the English system of non-restraint in the treatment of the insane.

In a more recent number of the same journal we find a full report of Baron Mundy's Introductory Lecture on Psychology to a densely crowded class in Vienna.

Appointments.

Mercer, N. G., M.D., has been appointed a Junior Medical Officer of the Lancaster County Lunatic Asylum, Lancaster.

Malan, C. H. W., C.M., has been appointed Medical Assistant Officer in the Crichton Royal Institution, Dumfries, *vice* H. G. Stewart, M.D., appointed Medical Superintendent of the Newcastle-upon-Tyne Borough Lunatic Asylum.

Strange, A., M.R.C.S. Edin., has been appointed one of the Assistant Medical Officers to the Gloucester County Asylum.

Husband, H. Aubrey, M.B., M.C. Edin., to be Assistant Medical Officer to the City of London Lunatic Asylum, Stone, near Dartford, Kent.

Richards, J. P., M.R.C.S.E., has been appointed Assistant Medical Officer to the Devon County Lunatic Asylum, Exminster.

Stewart, H. G., M.D., has been appointed Lecturer on Medical Psychology in the Newcastle-upon-Tyne College of Medicine.

Obituary.

CHARLES MOUNTFORD BURNETT, M.D., died on October 25th, at Alton, Hants, at a comparatively early age, being only 59 years old. He had for some time been suffering from a painful disease, from which he was released by death at a time when a life of energy and usefulness was just bringing to him the well-earned honours of the profession he adorned.

Dr. Burnett was born at Woolwich; and, being of a large family (the youngest of fifteen), was early sent to school, at Gloucester. His father's death occurred when he was but a boy, and he was thus soon thrown on his own resources. He soon turned his attention to the profession of medicine, and after studying at Farnham with the late Dr. Oke, of Southampton, entered at St. Bartholomew's Hospital, where, after a course of more than ordinary industry, he was appointed house-surgeon at the early age of twenty-one. He next was engaged in practice at Wimbledon, whence he was obliged to remove, and settled at Alton, where he died. His connection was very extensive, and occupied his time wholly. In consequence of a serious accident about twenty years ago, he felt obliged to retire from active practice, and he then devoted his energies to the study of mental diseases, which he treated with singular success. He converted his house into a private asylum, of which he was himself the resident proprietor and medical superintendent, and, to his honour be it said, persevered with such wonderful patience, in the face of many obstacles, as to raise it to the excellent rank it now holds among our provincial asylums. By all his patients he was held in the highest esteem; and it is not too much to say of him that he was a just and affectionate parent, a generous friend (especially to the poor), and a thoroughly religious man.

He was the author of several excellent works, among which may be named "The Power, Wisdom, and Goodness of God, as displayed in the Animal Creation;" "The Philosophy of Spirits;" "Insanity tested by Science;" and of various contributions to different journals.—*The Lancet*, November 17th.

PROFESSOR DAMEROW, M.D., Medical Superintendent of the Asylum at Halle, an honorary member of this association, died from cholera on the 23rd of September. The following notice of his death appeared in the last number of the 'Allgemeine Zeitschrift für Psychiatrie':—

Geheimer-Rath Prof. Dr. Damerow in Halle, der eifrigste Begründer und thätigste Förderer dieser Zeitschrift, ist in der Nacht vom. 22 zum 23 September verschieden. Er starb ein Opfer seines Berufes, an der Cholera, der er in seiner Anstalt, während zwei Assistenten als Militairärzte eingezogen waren, mit verdoppelten Anstrengungen entgegenzutreten musste. Ein schwerer Verlust für die Psychiatrie, für die deutsche insbesondere!
Die Red.

Notice to Correspondents.

English books for review, pamphlets, exchange journals, &c., to be sent either by book-post to Dr. Robertson, Hayward's Heath, Sussex; or to the care of the publishers of the Journal, Messrs. Churchill and Sons, New Burlington Street. French, German, and American publications may be forwarded to Dr. Robertson, by foreign book-post, or to Messrs. Williams and Norgate, Henrietta Street, Covent Garden, to the care of their German, French, and American agents, Mr. Hartmann, Leipzig; M. Borrari, 9, Rue de St. Pères, Paris; Messrs. Westermann and Co., Broadway, New York.

Authors of Original Papers wishing *Reprints* for private circulation can have them on application to the Printer of the Journal, Mr. Adlard, Bartholomew Close, E.C., at a fixed charge of 30s. per sheet per 100 copies, including a coloured wrapper and title-page.

The copies of *The Journal of Mental Science* are regularly sent *by Book-post (prepaid)* to the ordinary Members of the Association, and to our Home and Foreign Correspondents, and we shall be glad to be informed of any irregularity in their receipt or overcharge in the Postage.

The following *EXCHANGE JOURNALS* have been regularly received since our last publication:

The *Annales Médico-Psychologiques*; the *Zeitschrift für Psychiatrie*; the *Correspondenz Blatt der deutschen Gesellschaft für Psychiatrie*; *Archiv für Psychiatrie*; the *Irren Freund*; *Journal de Médecine Mentale*; *Archivio Italiano per le Malattie Nervose e per le Alienazioni Mentali*; *Medizinische Jahrbücher (Zeitschrift der K. K. Gesellschaft der Aerzte in Wien)*; the *Edinburgh Medical Journal*; the *American Journal of Insanity*; the *British and Foreign Medico-Chirurgical Review*; the *Dublin Quarterly Journal*; the *Medical Mirror*; the *Ophthalmic Review—a Quarterly Journal of Ophthalmic Surgery and Science*; the *British Medical Journal*; the *Medical Circular*; and the *Journal of the Society of Arts*. Also the *Morningside Mirror*; the *York Star*; *Excelsior*; the *Murray Royal Institution Literary Gazette*.

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ALFRED JOSHUA WOOD, M.D. St. And., F.R.C.S. Eng., Medical Superintendent,
Barnwood House Hospital for the Insane, Gloucester.

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Asylum, Cardiff, Glamorganshire.

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